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SUPPLEMENTARY GUIDANCE

MORAY ONSHORE WIND ENERGY

MORAY LOCAL DEVELOPMENT PLAN

Contents

1 Introduction

The Moray Council is committed to supporting the Scottish Government's aim of increasing the amount of electricity generated from renewable sources. The national Climate Change Delivery Plan committed Scotland to generating more than 50% of its electricity from renewable sources by 2020. This target has now been raised to generate the equivalent of 100% of Scotland's gross annual electricity consumption by 2020. The Government also has a target of 500MW of community and locally owned renewable energy by 2020. Further information is contained in the "2020 Routemap for Renewable Energy in Scotland – Update September 2015". **www.gov.scot/Resource/0048/00485407.pdf**

Moray is already contributing towards meeting these targets, primarily through a number of large scale wind farms. The Council aims to encourage a wide range of renewable energy projects with the aim of ensuring that the right technologies are supported in the right places, while respecting Moray's very high quality environment and the existing infrastructure constraints.

The Council's 2013 Onshore Wind Energy Policy Guidance has been broadly successful in directing large scale wind farms to Areas of Search. The increased interest in extensions and repowering opportunities and changes in Scottish Planning Policy (SPP) have triggered a review of the 2013 Guidance to ensure the Council has an up to date policy framework for assessing wind energy developments.

This guidance is a material consideration in assessing wind turbine proposals. A key component of this guidance is the "Moray Wind Energy Landscape Capacity Study 2017" which has been included as a technical appendix to this guidance and will be a material consideration.

Applications for onshore wind turbines over 50MW are considered by the Scottish Government Energy Consents Unit under section 36 of the Electricity (Scotland) Act 1989. The Council is consulted on section 36 applications within Moray and will use this guidance, the Landscape Capacity Study and Local Development Plan policies as the basis for responding. Relevant aspects of the guidance will also be used to inform responses to application for offshore wind farms.

Aims

This guidance sets out;-

- the Council's approach to considering and determining planning applications and for making observations on development proposals to the Scottish Government.
- information requirements and issues to be addressed at pre-application and application stages.
- the Council's overall strategy for wind turbine development, including spatial framework and detailed policy guidance maps for three typologies of turbine development.
- links to the extensive range of detailed guidance produced by the Council and consultees, and contact details.

This guidance has been subject to Strategic Environment Assessment under the terms of the Environmental Assessment (Scotland) Act 2005.

2 Policy Background

SPP approved in June 2014 requires planning authorities to;-

- Support the development of a diverse range of electricity generation from renewable energy technologies
- Set out a spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms as a guide for developers and communities.
- Indicate the minimum scale of onshore wind development that the spatial framework is intended to apply.
- Set out the criteria that will be considered in deciding applications for all wind farm developments including extensions and repowering.
- Follow the approach to spatial framework preparation set out in SPP in order to deliver consistency nationally. The spatial framework is then complimented by more detailed development management process where the individual merits of a proposal will be considered against the full range of environmental, community and cumulative impacts.
- Protect individual properties and settlements not included in the development plan with identified safeguards.
- Identify areas for windfarms that can be used in perpetuity.

The SPP requires the spatial framework to identify;-

- Group 1 areas where wind farms will not be acceptable because they are designated National Parks and National Scenic Areas.
- Group 2 areas of significant protection because of their national and international designations, their nationally important mapped environmental interests and the community separation for consideration of visual impact. Recognising the need for significant protection, in these areas wind farms may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.
- Group 3 areas with potential for wind farm developments which are outside of groups 1 and 2 where wind developments are likely to be acceptable.

This guidance should be read in conjunction with the Moray Local Development Plan (MLDP) 2015. The Guidance covers the Moray Local Development Plan area (i.e. Moray excluding the Cairngorms National Park). The MLDP sets out the spatial framework as required by SPP and this is reproduced in Map 19.

The current Local Development Plan policy for considering wind energy proposals is set out within Policy ER1 Renewable Energy Proposals.

Moray Local Development Plan 2015

Policy ER1 - Renewable Energy Proposals

"All Renewable Energy Proposals
All renewable energy proposals will be considered favourably where they meet the following criteria:

i) They are compatible with policies to safeguard and enhance the built and natural environment
ii) They do not result in the permanent loss or damage of agricultural land
iii) They avoid or address any unacceptable significant adverse impacts including:

- Landscape and visual impacts
- Noise impacts
- Electromagnetic disturbance
- Impact on watercourse engineering
- Impact on peatland hydrology
- Traffic impact
- Ecological impact
- Impact on tourism and recreational interests

Onshore wind turbines

In addition to the assessment of impact outlined above the following considerations will apply:

a) The Spatial Framework
Areas of Significant Protection*: where the Council will apply significant protection and proposals will only be appropriate in circumstances where any significant effects on the qualities of these areas can be substantially overcome by siting, design and other mitigation.

Areas with potential: where the Council is likely to support proposals subject to detailed consideration.

* *This protection will also apply to areas with carbon rich soils, deep peat and priority peatland habitat. This constraint is not currently included in the spatial strategy mapping but will be addressed through supplementary guidance once the relevant data becomes available.*

b) Detailed Consideration
The proposal will be determined through assessment of the details of the proposal, including its benefit, and the extent to which it avoids or mitigates any unacceptable significant adverse impact. Detailed assessment of impacts will include consideration of the extent to which:

Landscape and visual impact:

- The proposal addresses the Guidance set out in the Moray Windfarm Landscape Capacity Study
- The landscape is capable of accommodating the development without significant detrimental impact on landscape character or visual amenity
- The proposal is appropriate to the scale and character of its setting, respects the main features of the site and the wider environment and addresses the potential for mitigation.

Cumulative impact

- Any detrimental impact from two or more wind energy developments and the potential for mitigation is addressed.

Impact on local communities

- The proposal addresses any detrimental impacts on communities and local amenity including the impact of noise, shadow flicker, visual dominance and the potential for associated mitigation.

Other

- The proposal addresses any impacts arising from location within an area subject to potential aviation and defence constraints including flight path and aircraft radar.
- The proposal avoids or adequately resolves other impacts including on the natural and historic environment, cultural heritage, biodiversity; forest and woodlands; and tourism and recreational interests- core paths, visitor centres, tourist trails and key scenic routes.
- The proposal addresses any physical site constraints and appropriate provision for decommissioning and restoration."

***Further detail on the above assessment process will be addressed through supplementary guidance to include:*

- Peat mapping once this becomes available
- Detailed mapping of constraints
- Guidance on areas with greatest potential for small/medium and large scale wind farms.

Strategy

The Council's overall strategy for considering wind turbine development proposals is;

- Moray enjoys a very high quality and diverse natural and built environment, which must be safeguarded from inappropriate developments.
- Several large scale wind farm proposals and many smaller single turbines and clusters of turbines have already been consented in Moray. These make a significant contribution towards meeting national goals for renewable energy generation.
- There is very limited scope to accommodate further large scale wind turbine developments in Moray in landscape and visual terms.
- There are some further opportunities to accommodate medium and smaller scale proposals within certain types of landscape in Moray.
- There are limited opportunities for the expansion and/or repowering of existing wind turbine developments within certain landscapes in Moray.
- To meet the requirements of Policy ER1 this guidance provides detailed mapping of constraints and guidance on areas with greatest potential for small/medium and large scale wind farms as required by SPP para 162.

3 Wind Energy Proposals in Moray

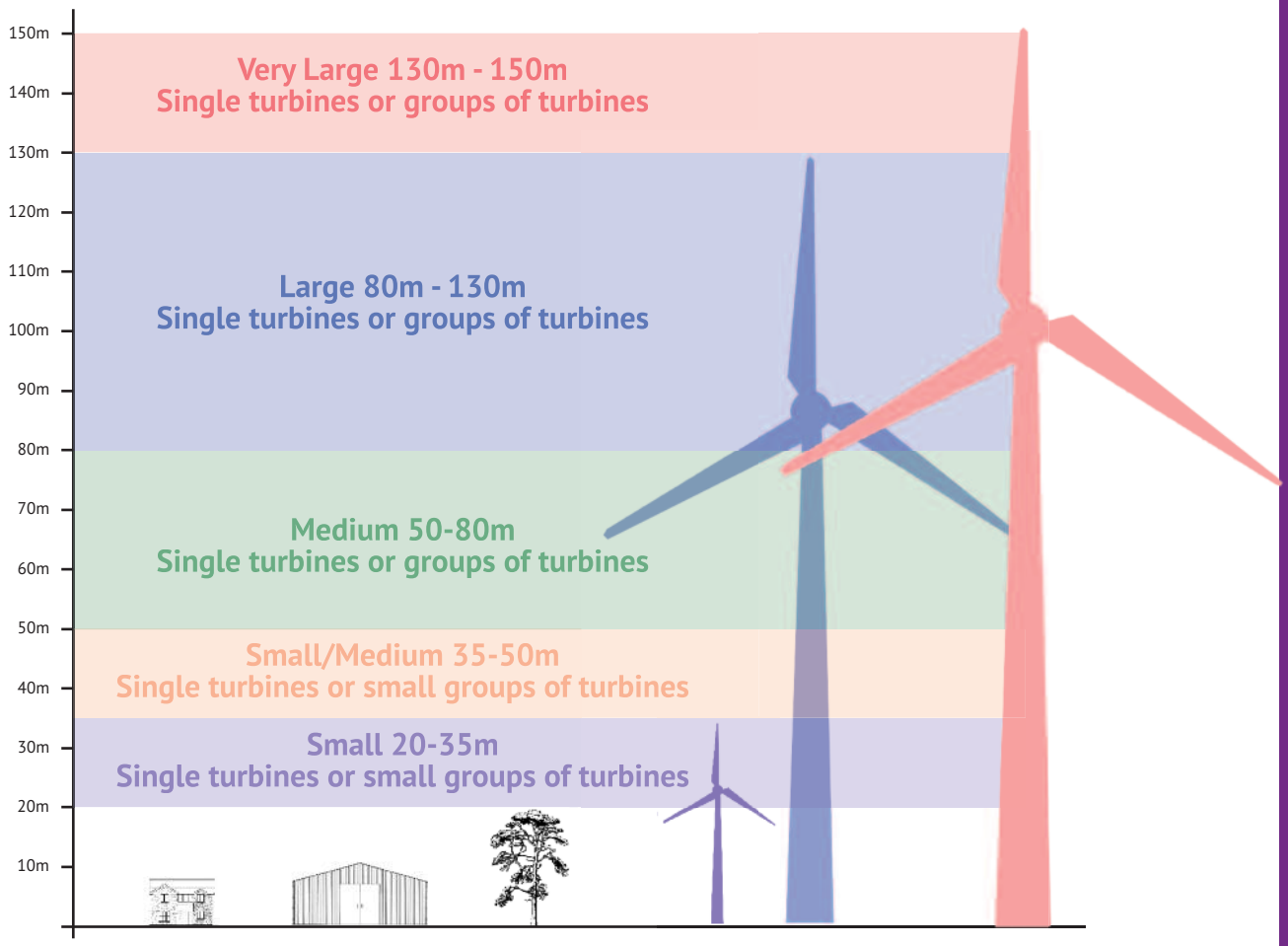
Consent has been granted for large scale wind farms at Rothes, Berryburn, Paul's Hill, Hill of Towie, Hill of Glaschyle, Edintore, Dorenell, Meikle Hill and Kellas. Dorenell and Drummuir were approved on appeal, following Public Local Inquiries, by the Scottish Government.

The scale and nature of wind turbine applications has changed considerably in the last few years. The reduction in grant incentives has greatly reduced the number of applications for turbines below 35m to blade tip. Applications for wind turbines have reduced yearly from 54 in 2012 to 23 in 2013, 13 in 2014, 6 in 2015 and 1 in 2016 (up to 31/7/2016). Yearly application numbers include all applications for turbines below 20m and small, small-medium, medium and large typology turbines as well as scoping/pre-application proposals and applications which have been withdrawn. In some cases scoping/pre-application proposals have been superceded with planning application increasing the overall number of applications.

A table and maps are updated regularly on the Wind Energy section of the Council's website to provide details of all the wind turbine applications: **www.moray.gov.uk/moray_standard/page_80938.html**

For the purposes of this guidance five typologies of turbine have been identified, based on height, rather than output or number of turbines. Moray Council considers that the critical issue in determining the landscape and visual impact of proposals is turbine height rather than power generated.

The five typologies are (to blade tip height) shown in the graph below;-



The upper height limit should be interpreted as an "up to" value, i.e. proposals for a single turbine 80m to blade tip would be classed as a "large" typology.

Proposals below 20m are generally considered to be potentially acceptable within most landscape character types subject to careful siting and design and landscape impact assessment.

The potential for extensions and repowering of existing wind farm developments has been considered in the Landscape Capacity Study and is discussed later in the guidance.

4 Spatial Framework and Detailed Policy Guidance Maps

Spatial Framework

The Council has followed the spatial framework set out in table 1 of SPP 2014 to identify the areas with potential for wind farm development, as required by para 161 of SPP, this is set out below.

Group 1: Areas where wind farms will not be acceptable:
National Parks and National Scenic Areas.

Group 2: Areas of significant protection:
Recognising the need for further significant protection, in these areas wind farms may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.

National and international designations:	**Other nationally important mapped environmental interests:**	**Community Separation for consideration of visual impact:**
• World heritage sites; • Natura 2000 and Ramsar sites; • Sites of Special Scientific Interest (SSSI); • National Nature Reserves; • Sites identified in the Inventory of Gardens and Designed Landscapes; • Sites identified in the Inventory of Historic Battlefields.	• Areas of wild land as shown on the 2014 Scottish National Heritage (SNH) map of wild land areas; • Carbon rich soils, deep	• An area not exceeding 2km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge. The extent of the area will be determined by the planning authority based on landform and other features which restrict views out from settlements.

Group 3: Areas with potential for wind farm development:
Beyond groups 1 and 2, wind farms are likely to be acceptable, subject to detailed consideration against identified policy criteria.

Table 1 Spatial Framework

Moray Wind Energy Landscape Capacity Study

A key part of this guidance involved commissioning the Moray Wind Energy Landscape Capacity Study update, which has been included as an appendix to the supplementary guidance and will therefore form part of the statutory Local Development Plan.

The landscape capacity study has provided the detail to identify areas of local landscape sensitivity, which has allowed the Council to define Areas of Greatest Potential based on the landscape character type and the typologies identified in this guidance. The SNH guidance "Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations, June 2015" recognises the important role of landscape capacity studies and that they are material considerations in determining proposals.

Detailed Policy Guidance Maps

The spatial framework, set out in the MLDP 2015, required by para 161 of SPP results in a very strategic overview of opportunities for wind turbine development. To meet the requirements of SPP para 162 and Policy ER1 of the MLDP to provide "detailed mapping of constraints" and "guidance on areas with the greatest potential for small/medium and large scale wind farms" further detailed policy guidance maps have been prepared to identify areas of greatest potential for wind development. Areas of Greatest Potential status does not imply a presumption in favour of planning consent in these areas. When assessing proposals, regard will be had to the Local Development Plan policies, the spatial framework, detailed policy guidance maps, development guidelines, additional guidance and the Moray Wind Energy Landscape Capacity Study. Detailed policy guidance maps include the following constraints.

Map 1-3, identifies areas of greatest potential for wind farm development for small/medium, medium and large typologies.

Data informing Policy Guidance Mapping	**Comment**
Spatial Framework from MLDP 2015	Protects areas identified through SPP 2014.
Moray Wind Energy Landscape Capacity Study	Provides protection to landscape character types with high or high-medium sensitivities to wind turbine development.
Settlement Buffer	Protects the amenity of settlements and safeguards against potential adverse impacts of wind turbines in areas closest to the majority of the population.
Residential Property Buffer	Provides a safeguard zone between residential properties and any turbine development to prevent noise and shadow flicker impacts and to prevent potential ice throw impacts.
Sustrans Buffer	Provides a safeguard zone between Sustrans routes and any turbine development to prevent impacts on the route should any turbine fall over events occur.
Rights of Way Buffer	Provides a safeguarding zone between Rights of Way access routes and turbines to prevent any impacts should any turbine fall over events occur.
Road/Street Buffer	Provides a safeguarding zone between Roads/Streets to prevent any impacts should any turbine fall over events occur.
Rail Buffer	Provides a safeguarding zone around railway lines to prevent an adverse impact on rail services should any turbine fall over events occur.
Core Path Buffer	Provides a safeguarding zone around the identified core paths to prevent hazardous siting and impacts upon the routes.
Key Scenic Approaches to Moray	Provides protection to the key scenic approaches into Moray, which have distinctive features, and are seen when entering Moray from the Cairngorms National Park.
RSPB Spatial Mapping	Spatial mapping of sensitive areas is available from RSPB.

Table 2 Constraints to Wind Energy Developments

Community Separation

A maximum buffer zone of 2km around all settlements identified in the local development plan, is set out in group 2 of the spatial framework. The following community separation distances have been identified and applied;

Typology	Towns, Villages and Rural Communities	Rural Residential Properties
Large	2km	1km
Medium	1km	1km
Small/Medium	200m	200m

Table 3: Community separation distances

These areas of Community separation for consideration of visual impact will be applied as a minimum out to a maximum extent of 2km.

Road/Rail/Access Buffers

There are a number of safety concerns associated with wind turbines, such as a fall over event, ice throw and debris scatter. To minimise the risk to road and rail users, and members of the public, the Council requires a safeguarding distance of 1.5 times the height to blade tip around roads, railways, Sustrans routes, rights of way and core paths. These are measured from the back of the verge, which is often defined by a fence or boundary. If there is no clear fence/boundary, the safeguarding distance should be measured from a point which is 2 metres from the edge of the carriageway/rail/path.

For illustrative purposes, the Policy Mapping includes the following safeguarding distances.

Small/Medium	**50m** on either side of all roads/rail/access tracks
Medium	**75m** on either side of all roads/rails/access tracks
Large	**120m** on either side of all roads/rail/access tracks
These are minimum distances and proposals will be required to incorporate a safeguarding distance of 1.5 times the height to the blade tip.	

Table 4 Safeguarding buffers around road, railways and access tracks

5 Extensions and Repowering of Wind Farms

The Landscape Capacity Study has identified a limited number of areas where there is scope for extensions to, and clustering of, wind farms. Developers should refer to the Potential Development Areas, on Map 4 and within the Landscape Capacity Study for further guidance on the potential to accommodate extensions and clustering into the existing Moray landscape. This will also guide developers on the landscape sensitivities associated with extending and clustering wind farms and turbines.

Proposed extensions should incorporate the same design principles as the adjacent wind farm(s), with turbines the same scale, size and colour. Turbines should also have the same rotational speed to prevent visual impacts on the landscape. The proposed windfarm should not impact on the existing windfarms setting and the extension should respect the focal points of the landscape. Should the existing windfarm be decommissioned before the extension, the extension must be able to sit in the landscape on its own.

Proposals for extensions to, and clustering of, wind farms will be treated as new applications and assessed against the relevant Local Development Plan policies, the Landscape Capacity Study, this guidance and any other material considerations. A cumulative impact assessment will also be required to assess the impact of additional turbine development on the landscape.

Cumulative effects will need to be carefully considered for extensions and repowering proposals.

Further Guidance

SNH guidance – Siting and Designing Windfarms in the Landscape: Version 2, May 2014 or most up to date version where this version has been superceded.
SNH Onshore Wind Energy Landscape information webpage:
http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/landscape-impacts-guidance/
SNH General Scoping and pre-application advice:
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/

Repowering of Existing Windfarms/Turbine(s)

The Scottish Government has identified repowering as an important area of wind turbine development. SPP, 2014 states that "areas identified for wind farms should be suitable for use in perpetuity". Areas of greatest potential have been identified through the detailed policy guidance maps (Maps 1-3), which are guided by the Landscape Capacity Study. These identify areas with the greatest scope for wind farm development in Moray.

Proposals for repowering will be treated as new applications and assessed on a case by case basis against the relevant Development Plan Policies, the Landscape Capacity Study, this guidance and any other material considerations. The Council will also consider the existing windfarm as a material consideration as SPP states that "Proposals to repower existing wind farms which are already in suitable sites where environmental and other impacts have been shown to be capable of mitigation can help maintain or enhance installed capacity, underpinning renewable energy generation targets. The current use of the site as a wind farm will be a material consideration in any such proposals".

Proposals for repowering should make use of existing infrastructure and resources and limit the need for additional footprint where possible, minimising further disruption of peat and use of primary aggregates or other resources.

The Landscape Capacity Study identifies landscape character types Upland Moorland and Forestry (10) and Open Rolling Uplands (11) as the areas which offer the greater potential for repowering. Developers should refer to the Landscape Capacity Study for guidance on the sensitivity of the landscape to repowering wind farms with larger turbines.

Any proposals for repowering wind farms should also submit a Landscape Impact Assessment and a Cumulative Impact Assessment to assess the impacts that a larger capacity wind farm/turbine may have on the landscape individually and cumulatively.

Further Information

SNH guidance – Spatial Planning for Onshore Wind Turbine: Natural Heritage Considerations- Guidance, June 2015 **www.snh.gov.uk/docs/A1663759.pdf**

Opportunities for Very Large Turbines

The Landscape Capacity Study has identified scope for turbines up to 150m in height in Landscape Character Types – Upland Moorland and Forestry (10), Open Rolling Uplands (11). Developers should refer to the Landscape Capacity Study for further guidance on the opportunities to develop very large turbines (>130m).

Proposals for the repowering of existing wind farms with larger turbines (>130m) will need to consider a revised layout to minimise the landscape and visual impacts. This should be addressed in the Landscape Impact Assessment and Cumulative Impact Assessment.

Consideration and assessment of the impacts (including cumulative) on species and habitats will also be required. Ecological survey work may be required to inform the assessment. Developers are encouraged to engage with the Council and SNH and other organisations early in the process to ensure that all necessary information is provided with any subsequent planning application.

If turbines are proposed which exceed the turbine heights identified in the landscape capacity study the onus would be on the applicant to demonstrate how the impacts of the proposal on the key constraints and any significant adverse effects can be mitigated in an effort to show a proposal can be supported.

6 Development Management Procedures

Site Selection

Applicants should provide background information as to the site selection process undertaken and indicate the key considerations in choosing the site proposed. In some cases this will be obvious and straightforward, but in larger scale proposals, it is likely that a detailed site selection process has been undertaken. Applicants should indicate how their proposal contributes towards the Council's Climate Change obligation, safeguards the Moray environment and contributes to the overall aim of this guidance. For medium and large scale proposals the applicant should provide information on Moray's energy consumption levels and the amount of energy generated through renewable sources and the contribution their proposal will make.

Pre application consultation

Under the terms of the Town and Country Planning (Hierarchy of Development) (Scotland) Regulations 2009, wind turbine proposals generating 20MW or more are classed as 'major' developments. This scale of proposal is subject to pre application consultation procedures, to be carried out between the developer and the community.

The Council offers a pre application consultation service, normally for "major" classes of development proposal, however, this service can be considered for smaller scales of development, if deemed appropriate by the Development Management Manager.

Developers are encouraged to contact the Council as early as possible to discuss their development proposal. The Council and its statutory consultees welcome early discussion and active involvement with developers to identify key issues, procedures and information requirements. Early active discussion allows the overall principle of the development as well as the detailed siting and design, viewpoint selection, information requirements and other issues to be discussed while the project is at an early stage.

All applications for wind turbine proposals should address the information requirements set out in this guidance and other information requested by the Council and consultees. Six figure grid references should be provided for each proposed turbine location to allow impacts such as noise to be accurately assessed. The make, model, colour, output, height to blade tip and blade diameter of the proposed turbines should be provided, along with details of all other buildings and supporting infrastructure.

Ancillary developments associated with wind turbine developments can have a significant impact and details must therefore be submitted with applications, even if subject to separate legislation. This includes details of access tracks, anemometers, control buildings, substations, grid connections, borrow pits and road improvements.

Details of proposed mitigation works on and off site to ensure that the proposal is acceptable should be provided. These will normally be secured through planning conditions with legal agreements.

SNH general scoping and pre-application online advice for onshore wind energy proposals provides good guidance on the type and level of information that should support any planning applications and in particular the 2014 guidance on the Visual Representation of Wind Farms should be followed, even for smaller wind energy projects.

Environmental Impact Assessment (EIA)

Under the Environmental Impact Assessment (Scotland) Regulations 2011, some classes of development require formal Environmental Impact Assessment. Guidance on the need for EIA is set out in Planning Advice Note 1/2013 and Planning Circular 3/2011. The Council is responsible for determining whether or not EIA is required for any wind energy project of more than 2 turbines or for turbines of more than 15m to hub height.

All wind farms developments proposed in "sensitive areas" must go through this screening process. Sensitive areas are defined in the relevant regulations and include national and international designations (world heritage sites, natura 2000 and ramsar sites, sites of special scientific interest, national nature reserves, designated gardens and landscapes and historic battlefields), other nationally important mapped environmental interests (areas of wildland, carbon rich soils, deep peat and priority peatland) and community separation distances for consideration of visual impact.

In cases where an EIA is not required, the Council can request additional environmental information be submitted with the development proposals. Where a formal EIA is not required, but the proposal may raise a number of potentially significant environmental issues, developers will be encouraged to prepare an EIA type of Assessment as good practice.

Issues regarding distance to grid connection and wind speeds are not dealt with in this guidance but have significant economic viability implications for wind farm developers.

Further Guidance

Pre application consultation guidance and forms
www.moray.gov.uk/moray_standard/page_79962.html

Scottish Government guidance – Planning Circular 3/2011: Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011
www.gov.scot/Resource/Doc/350238/0117228.pdf

Scottish Government guidance – Planning Advice Note 1/2013: Environmental Impact Assessment **www.gov.scot/Publications/2013/08/6471/5**

SNH General Scoping and pre-application advice:
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/

Contact

Moray Council Development Management section
Angus Birnie 01343 563242
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7 Detailed Guidance

The section below sets out the information and requirements that must be provided/met in relation to any proposals for the four typologies of wind turbine developments. These have been identified by the Council and its consultees. The level of information required will vary according to the scale of the proposal, the location and the issues to be considered. Elements of this guidance will also be applicable to turbine proposals below 20 metres in height.

Protected Species and Sensitive Habitats

All scales of wind energy development will require to assess the potential for impacts on protected species and sensitive habitats such as peatlands and freshwater, both from the proposed development alone and in combination with other wind farms affecting the same species/habitat. The level of surevy work required to inform the assessment will vary depending on the habitats present and the suitability of the area for protected species.

For all proposals, as a minimum, a desk study of existing data/records combined with an assessment of the habitats on and surrounding the proposed development site will help to identify the potential for impacts on sensitive habitats and protected species. Information on existing species records can be found via **http://snh.gov.uk/publications-data-and-research/snhi-information-service/atlas-of-living-scotland/**. Other data sources include records from NESBReC, RSPB, North East Raptoe Study Group, Capercaillie Project Officer, Speyside Black Grouse Study Group, Forestry Commission Scotland. The landowner/ manager can also be a very useful source of anecdotal information.

European Protected Species (EPS) likely to be affected by onshore wind energy development (such as otter and wildcat) are protected under the Habitats Regulations 1994 (as amended in Scotland). The full list of EPS found in Scotland and details on the level of legal protection they have can be found via **www.snh.gov.uk/protecting-scotlands-nature/protected-species/legal-framework/habitats-directive/euro/**. (Specific Guidance on potential impacts, survey requirements and further information on possible mitigation techniques, relating to bats and wind energy developments can be found via **www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/**).

Other species such as breeding birds, badgers, some plants and fish are protected under the Wildlife and Countryside Act 1981 (as amended) or other legislation. For more details on protected species see **www.snh.gov.uk/protecting-scotlands-nature/protected-species/which-and-how/**. It is the developer's responsibility to identify the potential for impacts on protected species, and take measures to avoid impacts that would be an offense under the relevant wildlife legislation.

Applicants should refer to SNH general scoping and pre-application advice document (available via **http://snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information**). This aims to ensure that the appropriate level of assessment is carries out so that important issues particularly cumulative issues are identified early to enable them to be surveyed/ addressed to avoid potential delays.

Protected Areas

Moray has a wealth of international, national and local nature conservation designations covering a range of important habitats and species. In most cases it would be damaging to the habitats and species of protected areas to locate a wind energy development within a protected area, regardless of the scale of development.

For all proposals, a desk study of existing data/ records will help to assess the potential for connections to protected areas. Information on protected areas can be found on SNH website via SNHi **www.snh.gov.uk/publications-data-and-research/snhi-information-service/**. Developers should identify protected areas with the potential for connections to the proposed development site. For protected areas important for habitats, the distance that a development may have potential connections to a protected area are likely to be short. However, for protected areas that are important for mobile species such as birds or mammals that travel some distance between feeding and sleeping areas, the potential for connection can be a long distance up to 20km for some geese.

Therefore, developments outwith a protected area can still have an adverse effect on the protected area. In addition, while the impact of an individual wind farm on a protected area may not be significant, the cumulative impact of that development in combination with the impacts caused by other developments affecting the same protected area could be significant. Cumulative assessments are therefore an important part of the overall assessment of impacts.

Applicants should refer to SNH general scoping and pre-application advice document (available via **www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information**) as this aims to ensure that the appropriate level of assessment is carried out so that important issues, particularly cumulative issues, are identified early to enable them to be surveyed/ addressed to avoid potential delays.

Proposals affecting Special Areas of Conservation (SAC) and Special Protection Areas (SPA) will be subject to Habitats Regulation Appraisal (HRA) under the Conservation(Natural Habitats & c) Regulations 1994 (as amended). Where HRA identifies that proposals are likely to have a significant effect on a SAC or SPA, either alone or in combination with other developments affecting the same SAC or SPA, the proposals must be subject to an assessment of the implications for the conservation interests for which the site is designated. This is known as an "Appropriate Assessment" and is separate to the requirement for an Environmental Impact Assessment (EIA). An Appropriate Assessment is carried out by the Competent Authority, being the body making the planning decision on the proposals. Information complied by the developer for the HRA and/or EIA can be used by the Competent Authority for the Appropriate Assessment.

The text below identifies specific sensitivities that have been found when proposing wind farms in Moray, covering SPA's and the River Spey SAC. There are specific SPA species within Moray that developers should consider, which are particularly sensitive to wind farm development;-

- **Geese (Moray and Nairn Coast, Loch Spynie SPA's):** due to their migration flights and the distance that wintering geese fly between feeding and roosting places, a wind farm some distance from these SPA's may still have the potential for impacts on the SPA.
- **Capercaillie (Darnaway and Lethen SPA):** when moving between areas, capercaillie tend to use existing woodland and valleys as "stepping stones". This means that they are likely to fly across areas of agricultural land between forests. The interest in small scale turbines tends to be located in just such areas. Surveying for capercaillie is unlikely to pick up signs of the birds because of how few there are. The risk is that they be injured or killed flying into a turbine. Because their population is so low this could have a significant adverse impact on the population. Avoiding open ground located between forests known to have had capercaillie sightings would help reduce the risk.
- **Ospey (Moray and Nairn Coast SPA):** due to the distance that osprey fly between feeding and roosting places, a wind farm some distance from this SPA may still have the potential for impacts on the SPA.
- **Common gulls (Tips of Corsemaul and Tommore SPA):** due to the state of the population of common gull, impacts on their population that occur during their flights between feeding and roosting areas have the potential to have an impact on the SPA population.
- **Golden Eagle (Cairngorms Massif SPA):** Due to the distance that golden eagle fly when searching for food, wind farms in proximity to the boundary with the Cairngorm National Park and this SPA may have the potential for impacts on the SPA.

Additional guidance for Capercaillie

The development interest in small scale and single turbine developments occurring in Moray now poses an additional challenge with respect to Capercaillie. Large wind farms tend to be located on higher remote land and Capercaillie are not such an issue as this is not the habitat they require and, when moving between areas, they tend to use existing woodland and valleys as 'stepping stones'. This movement means that they are likely to fly across areas of agricultural land between forests in search of new territories. The interest in small scale turbines tends to be located in just such areas.

Surveying for Capercaillie is unlikely to pick up signs of the birds because of how few birds there are. The risk is that they could fly into a turbine and because their population is so low this could have a significant adverse impact on the population. The risk of collision with a single turbine, or small group of turbines, is however very remote. The risk would become greater if more turbines are proposed and approved in areas where Capercaillie are likely to be flying. Avoiding open ground located between 2 forests known to have had Capercaillie sightings would help reduce the risk.

Forests currently supporting breeding Capercillie should be avoided. Information on locations of capercaillie and expertise on survey methods can be provided by the Capercaillie Project Officer.

Additional guidance for Upland Raptors

Upland Raptors such as golden eagles, hen harriers, short-eared owls and merlin are particularly vulnerable to risk of collision with turbines. They are also sensitive to disturbance which can prevent the use of nest sites and/or prevent the use of certain areas for activities such as hunting, which may potentially result in displacement. This can lead to a reduction in survival or reproduction and can also affect the birds' behaviour. Disturbance (visual and noise) may arise from wind farm construction, operation of the turbines, maintenance and improved access to the area as a result of new access tracks. Habitat degradation associated with windfarm development may also impact on upland raptors.

In order to assess the potential impact on upland raptors, it is essential that full and appropriate survey work is undertaken as part of the EIA, SNH guidance "Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms" (**www.snh.gov.uk/docs/C278917.pdf**) should be followed or most up to date version where this has been superceded. Prospective developers should seek advice on the particular circumstances of their site and survey requirements. RSPB Scotland and the North East Scotland Raptor Study Group may be able to provide additional, supplementary information or advice. Survey work should span all times of the year when the target species are present. SNH recommends survey work for a minimum of 2 years to allow for variation between years.

If the survey assessment work identifies any potentially significant impacts on upland raptors, either through direct collisions or disturbance/displacement, population modelling to evaluate impacts should be undertaken as part of the EIA.

Developers are expected to propose mitigation of any potentially negative impacts on upland raptors and/or their habitats. This may include the development of a moorland management plan, the details of which will depend on individual circumstances but should generally seek to improve conditions for the affected species over other parts of the estate. The management plans should also include provision for post-construction monitoring. Examples of this already exist at two windfarm sites in Moray – Rothes and Paul's Hill. Mitigation should be secured, where necessary, through appropriate planning conditions or obligations.

River Spey SAC and SSSI

The River Spey SAC and SSSI is designated for the 4 species; freshwater pearl mussel, sea lamprey, Atlantic salmon and otter. Freshwater pearl mussels have been recorded within the River Spey. Atlantic Salmon and otters can be found throughout the SAC, including many of its tributaries. Developments that involve crossing the River Spey or its tributaries, or that require construction or excavation of ground in close proximity to the river will require careful attention to pollution prevention to avoid impacts on the SAC. This is because all of the SAC species are sensitive to changes in water quality and flow.

Small scale proposals are less likely to have impacts unless they are located very close to the SAC or require work to watercourses, bridges etc. or require construction on steep slopes.

Large scale developments have greater potential to impact on the SAC's interests. The EIA for such developments needs to include sufficient information to enable an assessment of the potential impacts to be carried out. This is an issue that SNH welcomes early discussion on to ensure the correct level of detail is gathered as the EIA does not always address some of the specialist information required.

Mitigation

Where survey and assessment work has identified potentially negative impacts on birds, protective species or sensitive habitats, developers should set out how they propose to mitigate the impact. This may include ongoing surveying and monitoring post-construction and habitat management plans.

Cumulative Impact

For large scale proposals, developers will be required to provide a cumulative impact assessment of developments on the natural environment (see section on cumulative impact). Developers should refer to SNH Guidance on Assessing the Cumulative Impacts of Onshore Wind Energy Development.

Post Construction Monitoring

In order to inform the development of future wind energy proposals, and to assist with cumulative impact assessment, there should be an expectation that developers of medium and larger scale turbines, particularly those proposed for more sensitive areas, carry out post-construction bird monitoring. Such monitoring will also verify Environmental Statement conclusions and, should adverse impacts be greater than predicted, will form a basis for remedial action if required. The findings of the survey should be made available to the Council, SNH and other relevant environmental organisations, including RSPB Scotland.

Forestry

Some large and medium scale wind turbine proposals can require significant tree felling and applicants should provide details of the felling required and proposed mitigation. Where woodland removal is required the Council would encourage key holing to minimise the impact of woodland removal where this will not result in significant additional landscape and visual or other impacts. Proposals should also include details of how public access will be managed before, during and after construction.

Any felling will be subject to the Council's compensatory planting agreement with the Woodland Trust, with the developer required to cover the costs of replanting and maintenance of native trees totalling the same area as that which was felled or to deliver their own compensatory planting scheme to be approved by Moray Council and Forestry Commission Scotland (FCS). Any compensatory planting should be carefully planned and located so to avoid deep peat or open areas that are currently important for birds such as breeding waders.

For proposals to fell to waste where the waste generated by the process will be managed by techniques such as chipping, mulching or spreading, information will be required which explains how the waste hierarchy has been applied in a way which delivers the best overall environmental outcome. If ecological benefit from use of waste is being claimed, then reliable site specific evidence must be provided. Developers should refer to the joint SNH, Scottish Environment Protection Agency (SEPA) and FCS guidance on the use of trees cleared to facilitate development on afforested land, as well as the Scottish Governments Control of Woodland Removal Policy.

Further Guidance

SNH's onshore wind energy homepage **www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/**

Windfarm impacts on birds' guidance **www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/windfarm-impacts-on-birds-guidance/**

SNH guidance: Recommended bird survey methods to inform impact assessment of onshore wind farms **www.snh.gov.uk/docs/C278917.pdf**

General advice and information relating to wind farms **www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/**

SNH's Identifying key protected areas **gateway.snh.gov.uk/sitelink/index.jsp**

Bats guidance **www.snh.gov.uk/about-scotlands-nature/wildlife-and-you/bats/advice/**

SNH guidance: 'Good Practice during Wind Farm Construction- September 2015" **www.snh.gov.uk/docs/A1168678.pdf**

SNH Guidance: Assessing connectivity with Special Protection Areas (SPA's)- March 2012 **www.snh.gov.uk/docs/A675474.pdf**

Scottish Government's Policy on Control of Woodland Removal **www.forestry.gov.uk/PDF/fcfc125.pdf/$FILE/fcfc125.pdf**

SEPA, SNH, FCS Use of Trees Cleared to Facilitate Development on Afforested Land

Contact

Scottish Natural Heritage
Jennifer Heatley, Tel: 01343 541216 Nina Turner, Tel: 01463 725216
Email: **tayside_grampian@snh.gov.uk**

RSPB, North of Scotland Regional Office
Tel: 01224 624824
Email: **esro@rspb.org.uk**

Forestry Commission Scotland, Moray and Aberdeenshire
Tel: 0300 067 6200
Email: **morayaberdeenshire@forestry.gsi.gov.uk**

Community separation distances from residential properties and wind turbines

There are a number of potentially adverse effects arising if wind turbines are located too close to regularly occupied buildings. These effects relate to amenity and safety considerations such as noise pollution, ice throw and shadow flicker. Noise is covered in another section of this guidance. Developers will be required to demonstrate that their proposal will not have an adverse impact on the safety and amenity of properties, roads and railways and public access routes.

Shadow flicker is caused by the sun passing behind the rotor and casting a shadow over neighbouring properties. As the blades rotate, the shadow "flickers" on and off. Where the Council highlights that this could be a problem, developers must provide a calculation to quantify the effect. In most cases, an adequate shadow separation distance (see below) should ensure that shadow flicker is not a problem.

Typology	Towns, Villages and Rural Communities	Rural Residential Properties
Large	2km	1km
Medium	1km	1km
Small/Medium	200m	200m

In addition all developments should provide a minimum separation distance equivalent to 10 times the rotor diameter between all regularly occupied buildings and wind turbine proposals.

Further Information

Scottish Planning Policy, June 2014
http://www.gov.scot/Resource/0045/00453827.pdf

Department of Energy and Climate Change: Update of UK Shadow Flicker Evidence Base, 2011
www.gov.uk/government/uploads/system/uploads/attachment_data/file/48052/1416-update-uk-shadow-flicker-evidence-base.pdf

Transportation Issues

Wind turbine developments raise a number of important transportation issues including operational safety, transportation of parts to the site, visual distraction, road and bridge upgrading, construction traffic and ongoing maintenance.

Safety

There are a number of safety concerns associated with wind turbines, such as a fall over event, ice throw and debris scatter. To minimise the risk to road and rail users, the Council requires a safeguarding distance of 1.5 times the height to blade tip. These are measured from the back of the road verge, which is often defined by a fence or boundary. If there is no clear fence/boundary, the safeguarding distance should be measured from a point which is 2 metres from the edge of the carriageway.

For illustrative purposes, the detailed policy guidance maps include the following safeguarding distances.

Small/Medium	**50m** on either side of all roads
Medium	**75m** on either side of all roads
Large	**120m** on either side of all roads

These are minimum distances and proposals will be required to incorporate a safeguarding distance of 1.5 times the height to the blade tip.

Table 6 Road and Rail Buffers

Location

The applicant should assess whether the access roads are suitable for the transportation of all components and construction traffic necessary to deliver the proposed development. Any bridges or other structures must also be assessed to confirm if they can support the vehicles and loads being transported to the site.

Any sections of the route which will require modification to allow transportation of components should be identified, potential effects assessed and mitigation proposals provided.

The applicant must demonstrate that abnormal loads can be safely transported in such a way that minimises inconvenience to other road users and that the environmental effects of this and other construction traffic, after mitigation, are acceptable. Swept path analysis should be provided by the developer.

Visual Distraction

Any potential for visual distraction should be minimised by the provision of a clear, continuous view of the wind farm that develops over the maximum possible length of approach carriageway. The potential for distraction may be greater than with other roadside features (advertisements, etc.) but a clear view from distance will considerably reduce the temptation for drivers to turn their heads when passing the turbines.

Wind farms should not be located where motorists need to pay particular attention to the driving task, such as the immediate vicinity of road junctions, sharp or unexpected bends and crossings for pedestrians and cyclists.

The existing accident record and type of accidents occurring near the proposed wind turbine(s) may also need to be analysed. Applicants should note that locations with a history of rear end shunt accidents will be treated with particular caution. This information can be obtained from the Council's transportation section.

Access

For proposals below 35m to tip height, access to the site for construction must be clearly indicated, along with the maximum size of vehicle used to deliver the wind turbine components and the size of crane used to erect the turbine(s). Information on the number and size of other construction vehicles associated with the construction, maintenance and decommissioning is also required.

For proposals above 35m to blade tip the applicant will be asked to prepare a Transport Assessment (TA) covering the construction, operation and decommissioning stages of the development for consideration at the pre-application stage. To avoid delays and ensure a robust assessment the Transport Assessment Scoping must be submitted for approval. The TA, which will normally be part of the EIA, should demonstrate the likely impacts of the development on the road network and on road users and clearly define the access routes to the wind farm development. From this, the acceptability of the proposal should be determined and any mitigating measures should be identified.

In some cases, it may be necessary for the applicant to undertake modifications to the road to facilitate delivery of components and/or minimise disruption to other road users. The applicant may also be required to undertake a dry run of the delivery of the largest components to ensure delivery is possible in a way that minimises disruption. Requirements for strengthening bridges may also be requested.

In addition to these thresholds, the requirement for a TA or Transport Statement (TS) will be triggered because of location, surrounding road network condition, where the rotor blade length exceeds 18m and where the proposal is for 3 or more turbines.

As part of the TA and EIA, the applicant will be required to provide a comparison of the future baseline traffic numbers with and without construction traffic that would be generated by the project.

There may be a number of wind turbine proposals that use a common port and/or access route and pass through the same towns. Where cumulative impact is likely then a cumulative TA should form part of the EIA to consider the impacts of abnormal traffic movements relating to the proposals.

Trunk Road

Developers should contact Transport Scotland for further advice where the proposed turbine(s) are close to the trunk road network, or will require using the trunk road network to access the site.

Transport Scotland encourages pre-application discussions with wind farm developers so that the construction, operation, maintenance and decommissioning of proposed sites can be considered at an early stage of the application process.

Further Information

Moray Council Transportation Service Requirements for Wind Energy Developments, 2012 **www.moray.gov.uk/downloads/file78494.pdf**

Transport Scotland advice **www.transportscotland.gov.uk/road**

Contact

Moray Council Transportation
Tel: 0300 1234565
Email: **transport.develop@moray.gov.uk**

Transport Scotland
Tel: 0141 2727100
Email: **development_management@transportscotland.gsi.gov.uk**

Carbon Rich Soil, Deep Peat and Priority Peatland

The MLDP 2015 policy safeguards areas where there is peat and other carbon rich soils present. It is important to protect these soils as carbon sequestration is important to mitigate climate change.

Moray has large areas of peat and a few of the deepest areas have been designated as SSSIs and SACs. Proposals affecting carbon rich soils, deep peat and priority peatland are constrained further by the Spatial Framework identified within this guidance. These areas are identified within group 2 of the Spatial Framework providing them with significant protection.

Carbon rich soil, deep peat and priority peatland habitats have been incorporated into the spatial framework using SNH peat mapping published in June 2016. As SNH advise peat classes 1 and 2 have been included within the guidance to meet the spatial framework requirement to include 'nationally important mapped environmental interests'. Map 20 shows the areas of carbon rich soils, deep peat and priority peatland habitat in Moray.

Peat and Wetlands

Proposals should be designed to avoid peatlands to minimise adverse impacts upon the hydrology, peat stability and the generation of waste peat. Any proposal that has the potential to affect peat must clearly demonstrate that any significant effects on the quality of the area can be overcome by siting, design or other mitigation.

Where peatlands and other carbon rich soils are present and cannot be avoided, applicants should include preventative/mitigation measures such as use of floating roads and piled foundations to avoid significant drying or oxidation of peat through works such as access road construction and cable trenching. The most likely volume surplus peat that will be generated and the principles of how the surplus peat will be reused or disposed of should be identified and detailed in a Peat Management Plan. Guidance is provided in SEPA's 'Regulatory Position Statement – Developments on Peat'.

Applicants should provide details of full peat depths and illustrate that peatlands have been avoided wherever possible. Where peatlands are likely to be affected by development, justification for this should be provided by the developer.

Construction and Environmental Management Plans for work on peatlands should also be submitted including any proposed drainage impacts, dewatering, use of temporary construction measures such as floating roads, piling and any proposals for the disposal of waste peat.

Peat disposed at depth must be considered in the context of waste being landfilled, and may require a permit issued by SEPA under the Pollution Prevention and Control (Scotland) Regulations 2012.

Where possible, habitat management plans should be provided to reinstate peat forming habitats. Development should be designed to avoid wetlands including peatlands. Where avoidance is impossible, details of how impacts will be minimised and mitigated should be provided. Developers should refer to SNH guidance on "What to consider and include in habitat management". A Phase 1 Habitat Survey for the whole site should be carried out and the SEPA and SNH guidance 'A Functional Wetland Typology for Scotland' should be used to identify all wetland areas.

A National Vegetation Classification should be completed for any wetlands identified. Groundwater Dependant Terrestrial Ecosystems (GWDTE), which are types of wetland are protected under the Water Framework Directive and should be specifically identified.

Applicants should provide the following information:

a) A map demonstrating that all GWDTE are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater adstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it.

b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/ or quantitative risk assessment will be required.

Applicants should refer to Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for further advice and the minimum information we require to be submitted.

In choosing a location for a wind farm the presence of deep peat can limit the space available for turbines and associated infrastructure. Proposals should try to avoid peaty areas and wetlands as these areas can provide valuable diversity within predominantly agricultural zones. Unproductive land on farms is sometimes the most valuable for biodiversity.

Carbon Balance

Proposals for 50MW and above should be assessed by the developer in line with the Scottish Government guidance "Carbon Implications of Windfarms Located on Peatlands – Update of the Scottish Government Carbon Calculator Tool, August 2011". Applications generating under 50MW do not have to submit a carbon assessment but it is recommended that applicants do so if proposals affect peatland. Submissions of carbon assessments would be expected for medium and large schemes and for proposals that affect peatlands. The carbon assessment should quantify the gains over the life of the project against the release of carbon dioxide during construction. It should include all elements of the proposal, including borrow pits, construction of roads/tracks and other infrastructure and loss of peat bog.

Cumulative Impacts

For medium and large scale proposals, developers will be required to submit a cumulative impact assessment of development impacts on carbon rich soils, deep peat and priority peatland habitats (see section on cumulative impact).

Further Information

SNH guidance – Carbon rich soils, deep peat and priority peatland habitats mapping, 2015
www.snh.gov.uk/docs/A1495215.pdf (consultation map)

SNH guidance – Spatial Planning for Onshore Wind Turbines- natural heritage considerations, 2015 **www.snh.gov.uk/docs/A1663759.pdf**

Scottish Government guidance – Pollution Prevention and Control (Scotland) Regulations 2012
www.legislation.gov.uk/ssi/2012/360/pdfs/ssi_20120360_en.pdf

SEPA Regulatory Position Statement – Development on Peat
www.sepa.org.uk/media/143822/peat_position_statement.pdf

SNH, SEPA and Windfarm Industry – Good Practice during Windfarm Construction
www.snh.gov.uk/docs/A1168678.pdf

Scottish Government guidance – Carbon Implications of Windfarms located on Peatland: Update of the Scottish Government Carbon Calculator Tool, August 2011
www.gov.scot/Resource/Doc/917/0121468.pdf

Scottish Government guidance – Developments on Peatland: Site Survey
www.gov.scot/Resource/Doc/917/0120462.pdf

Scottish Government guidance – Peat Landslide Hazard and Risk Assessment: Best Practice Guide for Proposed Electricity Generation Developments, 2007
www.gov.scot/Resource/Doc/161862/0043972.pdf

SNIFFER (Scotland & Northern Ireland Forum for Environmental Research) guidance involving SEPA & SNH – A Functional Wetland Typology for Scotland
www.sniffer.org.uk/files/1113/4183/7996/WFD95_electronic.pdf

Scottish Renewables and SEPA joint guidance – Development on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste, 2012
www.gov.scot/Resource/0045/00455955.pdf

Scottish Government Wind Farm and Carbon guidance
www.gov.scot/WindFarmsAndCarbon

SNH General Scoping and pre-application advice.
www.snh.gov.uk/docs/A1150291.pdf

SNH - What to include in habitat
www.snh.gov.uk/docs/B1159444.pdf

Contact

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Pollution Prevention/Water Environment

The construction and operation of wind turbines can have an impact upon the water environment and raise concerns in terms of air and water pollution.

Applicants are referred to "Good Practice during Wind Farm Construction: version 3", September 2015, prepared by SNH, SEPA and the wind farm industry. The document provides guidance on pollution prevention, nature conservation, landscape, hydrology and related issues and supports the advice provided in this Guidance.

Pollution Prevention and Environmental Management
The outline principles for the construction, operation and decommissioning of the site should be submitted with the application in the form of a schedule of mitigation supported by site specific maps and plans. All potential pollution risks associated with the proposals should be identified along with preventative measures and mitigation. This information can provide the basis for an Environmental Management Plan and detailed construction method statement.

Applicants should provide the following information, as a minimum, to support their application:-

- Details of who will be responsible for pollution prevention during the different stages of the development.
- Ongoing monitoring and contingency measures for pollution incidents.
- Assessment of the timing of works and contingency measures for adverse weather.
- Pollution risks to the water environment, including particulate or chemical contamination and drainage, proposed mitigation and monitoring.
- Fuel transport, storage and contingency measures.

Water Environment
Any proposal for a wind energy development must have regard to the requirements of the Water Framework Directive. Developments should be designed to minimise impact upon the water environment. Any proposed water abstractions for concrete batching or welfare facilities should be detailed. The site layout should clearly illustrate the location of any proposed works. Impacts on the water environment include engineering activities such as culverts, bridges, dams, diversions, the disruption of groundwater flow and impacts on existing groundwater abstractions, including private water supplies.

Many activities affecting watercourses, standing waters, groundwater and wetlands require separate authorisation under the Water Environment (Controlled Activities)(Scotland) Regulations 2011
www.legislation.gov.uk/ssi/2011/209/pdfs/ssi_20110209_en.pdf. Further information is available from SEPA.

Where engineering activities are likely to affect the water environment applicants should provide the following information:

- A site survey of existing water features
- Map showing the location of all proposed engineering activities
- A justification for each activity along with proposed mitigation
- Indication of the proposed design (e.g. bridge/culvert)
- Photos of each affected waterbody
- A flood risk assessment if relevant

Watercourse Buffer Zones
Any proposal should incorporate a buffer zone between development and any water features on the site to minimise the impacts of development on the water environment. The exact buffer distance should be determined through consultation with SEPA. Current bet practice includes the use of 50m buffer strips to the water environment.

Borrow Pits
Applicants should identify the location of proposed borrow pits and appraise the impacts including dust, blasting and impact on water, following the guidance set out in Planning Advice Note 50. Restoration measures for the borrow pits must be provided. This should include a map of all proposed borrow pits along with the location, size, depths and dimensions of each borrow pit, the existing water table and volumes of all dewatering, the proposed drainage and settlement traps, turf and overburden removal and storage areas, restoration profile, nature and volume of fill materials and, if wetland features from part of the restoration, 25 year management proposals.

Site Waste Management Plans
The applicant should provide details of how all waste streams, including waste peat, soils and refuse will be minimised in the first instance, and disposed of, during the construction of the development.

Cumulative Impacts
For medium and large scale proposals, developers will be required to carry out a cumulative impact assessment of the development impacts on the water environment and flood risk (see section on cumulative impact).

Further Information

Planning Advice Note 50- Controlling the Environmental Effects of Surface Mineral Workings **www.gov.scot/Resource/Doc/109611/0026467.pdf**

SEPA Pollution Prevention and Control guidance
www.sepa.org.uk/regulations/pollution-prevention-and-control/

SEPA Controlled Activity Regulations (CAR) guidance and information
www.sepa.org.uk/regulations/water/

SEPA guidance – Engineering in the Water Environment: Good Practice Guide- River Crossings, 2010 **www.sepa.org.uk/media/151036/wat-sg-25.pdf**

SEPA Energy Position Statement
www.sepa.org.uk/media/59374/sepa_energy_position_statement.pdf

SEPA guidance Note 4- Planning Guidance on Onshore Windfarm Developments
www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf

SEPA Flood maps for Scotland
www.sepa.org.uk/environment/water/flooding/flood-maps/

SEPA Technical Flood Risk Guidance for Stakeholders
www.sepa.org.uk/media/162602/ss-nfr-p-002-technical-flood-risk-guidance-for-stakeholders.pdf

SEPA Culverting of Watercourses Position Statement
www.sepa.org.uk/media/150919/wat_ps_06_02.pdf

Contact

Scottish Environment Protection Agency (SEPA)
Planning Service
Tel: 01224 266600
Email: **planning.aberdeen@sepa.org.uk**

Cultural Heritage

Moray has a wealth of cultural heritage sites including scheduled monuments, archaeology sites, Gardens and Designated Landscapes, listed buildings and conservation areas. It is important that wind turbine proposals consider the potential impact upon their setting.

Information on listed buildings and conservation areas can be obtained from the Council's Development Management section or Historic Environment Scotland. Information on scheduled monuments and archaeological sites can be obtained from the Regional Archaeological Service.

Applicants should identify cultural heritage features in the immediate and wider vicinity of the proposal which may be affected in terms of noise, visual, landscape or setting impact through the construction or operational phases. The potential effects on cultural heritage designations should be considered and identified as part of the planning submission along with any proposed mitigation measures.

Wind turbine proposals should ensure that they do not result in an adverse impact upon designated cultural heritage sites. The magnitude of likely impacts will be assessed by the Council in consultation with Historic Environment Scotland and the Regional Archaeologist. Turbines should not appear to "be out of scale with" a listed building or archaeological site or adversely affect their setting. In this context "setting" can be described as "the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced".

Where the tranquillity of a built or cultural heritage site or area, is important to the amenity of an area, such as an archaeological site or designed garden or landscape, consideration should be given to the potential noise impacts from the proposed turbines.

In addition to designated sites, proposals should assess the likely impact upon undesignated archaeological sites, which are recorded in the Moray Sites and Monuments Record.

Applicants are encouraged to contact the Archaeology Service at an early stage to discuss proposals and identify potential issues. Baseline assessments for undesignated archaeology should use a 1km buffer study area around the site boundary. Any other sites to be considered will be highlighted by the Archaeology Service. For designated archaeological sites (such as Scheduled Monuments), applicants should consult with Historic Environment Scotland to agree the study area size.

Photomontages and wireline drawings should be prepared for important views to and from scheduled monuments and any other significant sites as identified by the Archaeology Service where the proposals may impact upon the visual setting.

Further Information

Historic Environment Scotland guidance – Managing Change in the Historic Environment: Setting, 2010 **www.historic-scotland.gov.uk/setting-2.pdf**

Scottish Government Planning Advice Note 2/2011 – Planning and Archaeology **www.gov.scot/Resource/Doc/355385/0120020.pdf**

Moray Site and Monuments Record
https://online.aberdeenshire.gov.uk/smrpub/master/default.aspx?Authority=Moray

Contact

Bruce Mann, Regional Archaeologist
Tel: 01224 664731
Email: **bruce.mann@aberdeenshire.gov.uk**

Heritage Management, Historic Environment Scotland
Tel: 0131 6688716
Email: **HMConsultations@hes.scot**

Noise Pollution

The construction and operational phases of wind turbine developments have the potential to raise issues of noise pollution.

There are two distinct noise sources associated with a turbine, the mechanical noise produced by the gearbox and the noise produced from the blades turning through the air. Modern designs and improving technology have significantly reduced the mechanical noise generated.

At the applications stage the Council may seek details on the extent of construction works, taking account of the length of the construction period, proposed times, detailing of any borrow pit blasting and proximity to noise receptors. Proposals should take account of BS5228 2009 Parts 1 and 2. Where it is believed that construction noise will be significant then a site specific noise impact assessment will be required.

In terms of operational noise assessment, there are different requirements depending on whether the proposal involves a turbine rotor diameter greater or less than 16 metres.

For all proposals the following information must be provided to allow the Council to consider likely noise impacts.

- A 6 figure easting and northing grid reference for the exact turbine location and the distance between this point and the nearest noise sensitive location.
- The make, model, mast tower height and rotor diameter of the turbine.

Proposals with rotor diameter 16m or less
For proposals with a rotor diameter less than or equal to 16m, the following information must be provided;-

- A Declared Apparent Emission sound power level and noise slope figure for the selected turbine. This must be derived be a competent person/body in accordance with the RenewableUK document "Small Wind Turbine Standard, January 2014".

The above data will be used to assess the potential impact of noise from the turbine in accordance with the hemispherical noise propagation, as described in the aforementioned RenewableUK document.

Where noise levels at the nearest noise sensitive location are predicted to be at or below an external free field sound pressure level limit LA eq (10 mins) 38dB, 8m/s wind speed, as measured or calculated at 10m height, it is probable that noise can be made the subject of a recommended planning condition. The external limit is a position up to 15m out from the façade of a noise sensitive property.

Where noise levels are predicted to exceed this 38dB(A) limit, noise will likely become a material consideration.

Proposals with rotor diameter greater than 16m
For proposals with a rotor diameter of greater than 16m, the following information must be provided;-

- The appropriate turbine noise source data can be found from a number of sources and shall be agreed with the planning authority, having regard to 4.2.2 of the Institute of Acoustics (IOA) document of May 2013, "A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise" (Referred throughout as the 'IOA GPG, May 2013'). There are also the Institute of Acoustics Supplementary Guidance Notes that should be referred to as appropriate on this matter.
- An assessment of the noise emission levels from the turbine(s) at the nearest noise sensitive properties shall be carried out be a competent person and using all the relevant model and input parameters in the methodology of Section 4 of the "IOA GPG, May 2013".

Where noise levels at the nearest noise sensitive location are predicted to be below LA 90 (10 mins) 35dB, including for any cumulative impacts, it is probable that the noise issue can be concluded with a recommendation of conditions. Where noise levels are predicted to exceed LA90 (10 mins) 35dB limit, noise levels will likely become a material consideration.

Additional guidance for all wind turbine proposals

Background Noise Levels
If the applicant wishes to pursue an application where the predicted noise levels are greater than 35dB(A) they will be required to follow the guidance provided by ETSU-R-97, the "IOA GPG, May 2013" and the IOA Supplementary Guidance Notes that accompany these documents, in relation to assessing background noise levels.

Live Planning Consents and Cumulative Impact
Live planning consents (e.g. undeveloped plots) will be viewed as noise sensitive locations. In addition to the applicants turbine(s), due consideration will require to be given to the cumulative noise impact of existing consented or built wind turbines in the broader locality. It is recommended that the applicant gives due regard to the information on cumulative noise described in Section 5 of the "IOA GPG, May 2013".

Key elements in Reporting the Noise Impact Assessment
In reporting on a Noise Impact Assessment for large wind turbines it is expected that the applicant will have regard to Chapter 6, Table 1, of the "IOA GPG, May 2013" in suitably covering the key elements. In relation to small wind turbine assessments it is expected that less elements will be required and a simplified procedure would be anticipated. Section 1.2.2 of the "IOA GPG, May 2013" should be considered in these circumstances and in particular methodologies agreed with the planning authority prior to commencing, these should also take into account the guidance in the section here entitled "Proposals with rotor diameter 16m or less".

Further Information

Scottish Government guidance – Planning Advice Note 1/2011: Planning and Noise **www.gov.scot/Resource/Doc/343210/0114180.pdf**

Institute of Acoustics – A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, May 2013
www.ioa.org.uk/sites/default/files/IOA%20Good%20Practice%20Guide%20on%20Wind%20Turbine%20Noise%20-%20May%202013.pdf

Institute of Acoustics – Supplementary Guidance documents
www.ioa.org.uk/publications/good-practice-guide

RenewablesUK guidance – Small Wind Turbine Standard, January 2014
www.renewableuk.com/en/utilities/search-results.cfm?keyword=Small+Wind+Turbine+Performance+and+Safety+Standard+29

British Standards – BS 5228, 2009

Contact

Douglas Caldwell, Environmental Health Officer
Tel: 01343 563355
Email: **douglas.caldwell@moray.gov.uk**

Electromagnetic Interference

Wind turbines can diffract, reflect, scatter and absorb radio energy and can cause disruption to television, radio, telecoms and other communication signals. The Council will consult with Ofcom to identify any potential adverse impacts. In such cases developers will be required to mitigate impacts at their expense.

Joint Radio Company (JRC) analyses proposals for wind farms on behalf of the UK fuel and Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their requirements.

Further information and contacts

Ofcom
Spectrum.licencing@ofcom.org.uk

Aviation/Ministry of Defence concerns

Wind turbines can have significant implications for the flight paths and radar or aircraft due to the height of the turbines and anemometers. Moray's operational RAF base at Lossiemouth, the runway at Kinloss and proximity to both Inverness and Aberdeen airports make this a significant issue to be considered. Developers will be required to demonstrate that their proposal will not have an adverse impact on the safety and amenity of properties, roads, railways and public access routes.

Wind turbines and anemometers' can also create electromagnetic interference which has significant implications for airport radar and communications systems. Developers should consult the aviation organisations that have a duty to safeguard certain communication, navigation and surveillance sites from interference to signals caused by wind turbines in the interests of national security, and the continued safe operation of passenger and military aviation.

Civilian aviation is generally confined to designated flight paths and corridors of controlled airspace using set approaches at airports. However, military aviation may be over extensive areas of the UK outside 'controlled airspace'. The approaches and flight patterns to military aerodromes can be irregular for a number of reasons.

Wind turbines can create an obstruction to low flying aircraft, which is sometimes as low as 100 feet with helicopters operating at ground level. The Ministry of Defence (MOD) is a statutory consultee if a proposed wind turbine is 11 metres to blade tip or taller, or has a rotor diameter of 2m or more. The MOD may also request the lighting of turbines when it is considered necessary for military aviation purposes including low level training. Normally structures of 150m and above would be lit.

Developers should provide details of any possible effect on civil and military aircraft and on airport radar equipment and of consultations undertaken with National Air Traffic Services (NATS), MOD, Civil Aviation Authority (CAA) and local flying/gliding clubs. Issues arising and proposed mitigation measures should be clearly set out, including details of any aircraft warning lights to be installed.

Aircraft protection issues, including the effect on radar installations, are not considered in the spatial framework but will be evaluated in consultation with the appropriate civil and military authorities prior to determining any applications.

The Ministry of Defence (MOD) has set up a web page offering information about safeguarding aviation issues, guidelines for planning consultations and links to further sources.

Further Information

Civil Aviation Authority (CAA) – CAA Policy and Guidelines on Wind Turbines: CAP 764 – 6th Edition, February 2016
http://publicapps.caa.co.uk/docs/33/CAP764%20Issue6%20FINAL%20Feb.pdf

Civil Aviation Authority (CAA) – Policy Statement: Lighting of En Route Obstacles and Onshore Wind Turbines, 2010
http://publicapps.caa.co.uk/docs/33/DAP_LightingEnRouteObstaclesAndWindTurbines.pdf

Aviation safeguarding maps **www.gov.uk/government/collections/renewable-energy-planning-data**

SNH guidance – Siting and Designing Wind farms in the Landscape: Version 2, May 2014
www.snh.org.uk/pdfs/strategy/renewables/Guidance_Siting_Designing_wind_farms.pdf

SNH General Scoping and Pre-Application advice
http://www.snh.gov.uk/docs/A1150291.pdf

SNH guidance – Siting and Design of Small Scale Wind turbines of Between 15 and 50 Metres in Height, 2012 **www.snh.gov.uk/docs/A675507.pdf**

Landscape and Visual Impact

Moray's high quality and diverse landscape is widely recognised and is a major contributor to the local economy and the quality of life enjoyed by residents. Much of the area is covered by designated Areas of Great Landscape Value, with a Coastal Protection Zone and a number of Gardens and Designed Landscapes. A part of the Cairngorm National Scenic Area is also within Moray, although out-with the area covered by the MLDP and this Guidance.

There are Special Landscape Areas in the Highland and Aberdeenshire Council areas, which should be taken account of. Proposals should also take account of the special qualities of the Cairngorm National Park and developers should consult with the Park Authority as appropriate.

Map 5 shows Moray's areas of great landscape value and coastal protection zone and Highland and Aberdeenshire's Special Landscape Areas and coastal zones.

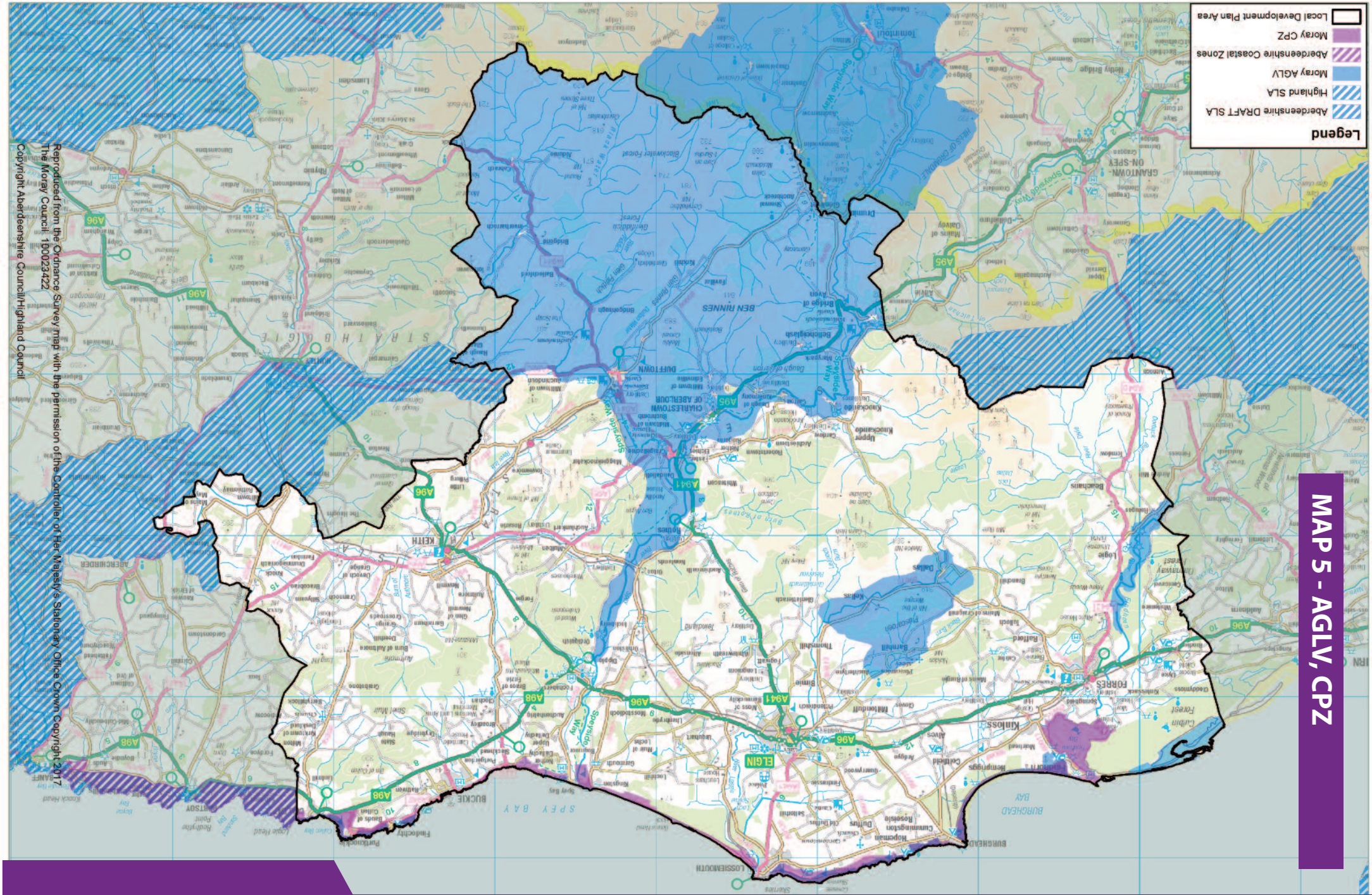
Development proposals should assess the likely impact upon these designations. However, it is also important to recognise the value of the wider landscape and to ensure that the landscape character of Moray is not adversely affected by wind turbine proposals, which either individually or cumulatively can change the character of the landscape.

A full landscape impact assessment must be submitted for medium and large scale turbine proposals, unless otherwise agreed by the Council. This will normally be as part of the EIA where one is required. The Council encourages developers to consult with SNH and the Council at an early stage regarding landscape and visual impact issues raised by wind turbine developments to agree the methodology for assessment, selection of viewpoints and cumulative assessment.

For small and small/medium scale proposals some landscape and visual impact assessment will be required, appropriate to the scale of the proposal.

Developers will be required to demonstrate how their proposal can be integrated into the Moray landscape. Development proposals will be assessed against the Moray Wind Energy Landscape Capacity Study 2017, prepared by Carol Anderson. This study forms a key element in preparing the detailed policy guidance maps and identifying Areas of Greatest Potential. The study also contains detailed design and siting guidance for turbines below 50m, which applicants should take account of.

The Landscape Capacity Study considered the capacity of Moray's landscape character types for 4 different typologies of wind turbines identified on page 9.



MAP 5 - AGLV, CPZ

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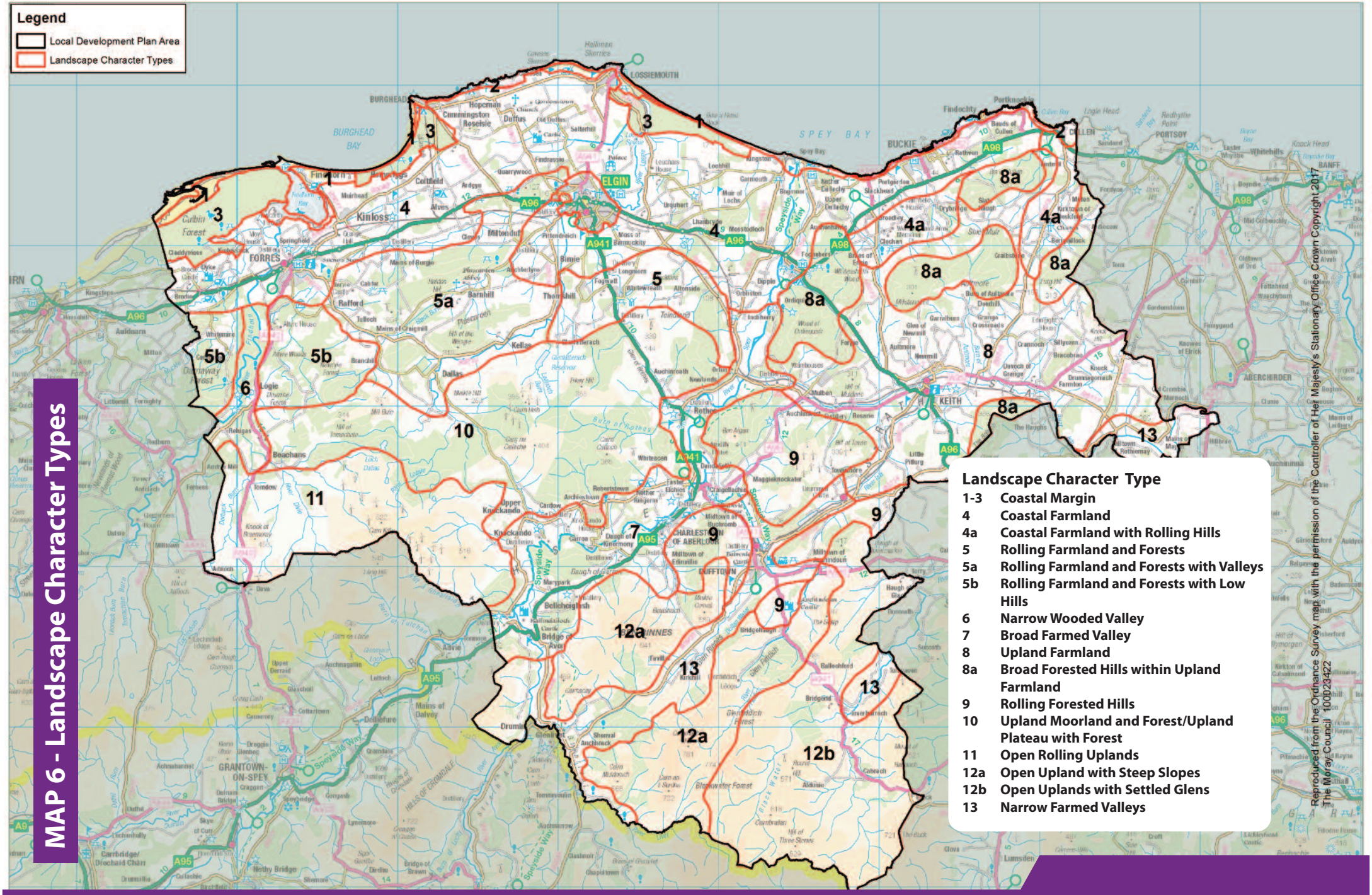
Copyright Aberdeenshire Council/Highland Council

MAP 6 - Landscape Character Types



The landscape and visual sensitivity of each character type was assessed and rated using the definitions in the table below.

Overall sensitivity rating	Definition
Low	The development typology relates well to key landscape characteristics and change is able to be accommodated without significant adverse impacts on landscape character or visual amenity.
Medium-Low	Some limited sensitivities although there are opportunities to accommodate the development typology in most locations.
Medium	Some key landscape characteristics or aspects visual amenity are sensitive but there is still some ability to accommodate development in some situations without significant character change or visual impact; the development typology relates to some aspects of landscape character.
Medium-High	A number of the key landscape characteristics are vulnerable to change. Development would undermine some important defining aspects of landscape character and/or visual amenity but may be able to be accommodated in very small parts of some landscape character areas.
High	The majority or all of the key landscape characteristics are vulnerable to change. Development would conflict with key aspects of landscape character and visual amenity with widespread and significant adverse impacts likely to arise.

Table 8 Sensitivity Rating Definitions

Landscapes with ratings of "high" and "medium-high" will present major landscape and visual constraints to the specific development typology, with significant adverse impacts likely to occur. Therefore landscapes with sensitivity ratings of "high" and "medium-high" are considered unsuitable for wind turbine development.

The following tables summarise the overall findings on sensitivity for the 4 typologies of wind turbine development (It should be noted that assessment on smaller development typologies has not been undertaken for sparsely settled upland character types).

Large typology (80m-130m high turbines)

Sensitivity	Character type
High	Coastal Margin (1-3), Rolling Coastal Farmland (4a), Rolling Farmland and Forests (5), Rolling Farmland and Forests with Valleys (5a), Rolling Farmland and Forests with Low Hills (5b), Narrow Wooded Valley (6), Broad Farmed Valley (7), Upland Farmland (8), Open Uplands with Steep Slopes (12a), Narrow Farmed Valley (13)
High-medium	Coastal Farmland (4), Broad Forested Hills within Upland Farmland (8a), Rolling Forested Hills (9), Open Rolling Uplands (11), Open Uplands with Settled Glens (12b)
Medium	Upland Moorland and Forestry (10)
Medium-low	-
Low	-

Medium typology (50-80m high turbines)

Sensitivity	Character type
High	Coastal Margin (1-3), Rolling Coastal Farmland (4a), Rolling Farmland and Forests(5), Rolling Farmland and Forests with Valleys (5a), Rolling Farmland and Forests with Low Hills (5b), Narrow Wooded Valley (6), Broad Farmed Valley (7), Upland Farmland (8), Open Rolling Uplands (11), Open Uplands with Steep Slopes (12a), Narrow Farmed Valleys (13)
High-medium	Coastal Farmland (4), Rolling Forested Hills (), Open Uplands with Settled Glens (12b)
Medium	Broad Forested Hills within Upland Farmland (8a), Upland Moorland and Forestry (10)
Medium-low	-
Low	-

Small-medium typology (35m-50m high turbines)

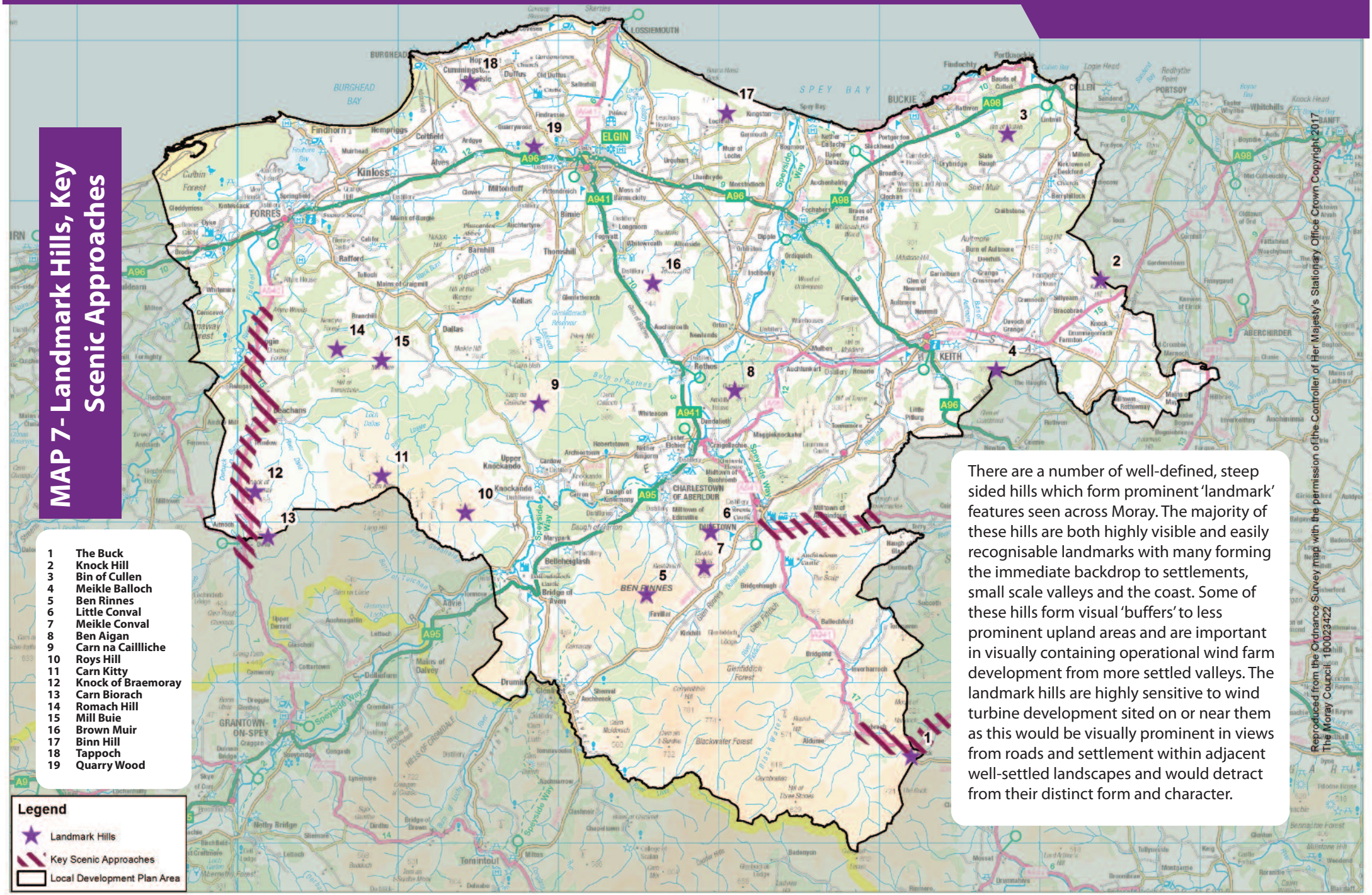
Sensitivity	Character type
High	Coastal Margin (1-3), Narrow Wooded Valley (6)
High-medium	Rolling Coastal Farmland (4a), Rolling Farmland and Forests(5), Rolling Farmland and Forests with Valleys (5a), Rolling Farmland and Forests with Low Hills (5b), Broad Farmed Valley (7), Upland Farmland (8), Narrow Farmed Valleys (13)
Medium	Coastal Farmland (4)
Medium-low	
Low	

Small typology (20-35m high turbines)

Sensitivity	Character type
High	-
High-medium	Coastal Margin (1-3), Narrow Wooded Valley (6)
Medium	Rolling Coastal Farmland (4a), Rolling Farmland and Forests (5), Rolling Farmland and Forests with Valleys (5a), Rolling Farmland and Forests with Low Hills (5b), Broad Farmed Valley (7), Narrow Farmed Valleys (13)
Medium-low	Coastal Farmland (4), Upland Farmland (8)
Low	

Table 9 Landscape Character Type Sensitivity Assessments for Each Typology

MAP 7- Landmark Hills, Key Scenic Approaches



There are a number of well-defined, steep sided hills which form prominent 'landmark' features seen across Moray. The majority of these hills are both highly visible and easily recognisable landmarks with many forming the immediate backdrop to settlements, small scale valleys and the coast. Some of these hills form visual 'buffers' to less prominent upland areas and are important in visually containing operational wind farm development from more settled valleys. The landmark hills are highly sensitive to wind turbine development sited on or near them as this would be visually prominent in views from roads and settlement within adjacent well-settled landscapes and would detract from their distinct form and character.

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Turbines below 20m reflect better to the scale of woodlands, mature trees and buildings in more settled landscapes, and there are therefore fewer constraints associated with this typology in general.

Developers should refer to the full text of the Landscape Capacity Study as the summary represents an average across landscape character types. The full Study identifies specific opportunities and constraints for each landscape character type. Where the Study identifies specific constraints, developers will be required to demonstrate how they have dealt with potential effects when preparing proposals.

The Landscape Capacity Study also identified a landscape strategy which development proposals will also be considered against this. The strategy includes;

- Protecting the landmark hills, Special Landscape Areas, Wild Land Areas and their setting.
- Maintaining the distinctive western threshold to Moray experienced from the A940/A939.
- Maintaining the rugged scenery and setting to more dramatic uplands around Ben Rinnes.
- Protecting the special qualities of the coast and its associated historic settlements.
- Ensuring that any further development of larger typologies is clearly associated with less sensitive upland landscapes.
- Ongoing review of cumulative landscape and visual effects of multiple wind turbine developments.

Application Supporting Evidence

To illustrate the potential visual impact of a development the landscape and visual assessment for large and medium scale proposals should include;

- Details of any statutory or non-statutory landscape designations within Moray and adjacent planning authority areas (National Park, National Scenic Areas, Areas of Great Landscape Value, Gardens and Designed Landscapes, Coastal Protection Zone and Countryside Around Towns) within the study area.
- Zone of Theoretical Visability map(s) showing where the turbines (to blade tip) could be seen from.
- Viewpoint analysis from key points, agreed in advance with the Council and SNH.
- Computer generated wireline diagrams and photo montages to illustrate visual impact unless otherwise agreed in writing with the Council visualisation materials should be presented in a form that follows the most up to date version of the national guidance on the Visual Representation of Wind Farms Good Practice Guidance.
- Details of the type of turbines, colour, number, output and location of other buildings.

- Details of all access tracks and electricity connections to the site and between turbines. The Council considers that grid connections should be underground to at least a suitable "off-site" location. Although grid connections are subject to separate legislation, the impact of any associated infrastructure should be identified and assessed.
- The assessment should cover both the construction and operational phases of the proposal.
- An assessment of the proposals' conformity with the Landscape Capacity Study, an assessment of the proposal against the landscape and visual sensitivities and the Landscape Strategy.

For small and small-medium typologies a simplified assessment will normally be sufficient, showing, as a minimum, a Zone of Theoretical Visibility (ZTV) map covering a study area of up to 15km radius from the outermost turbine proposed and wireless and photomontages from a limited number of viewpoints.

Visualisation materials should be presented in a form which follows the guidance set out in SNH's guidance "Visual Representations of Windfarms Good Practice Guide, Version 2", 2014.

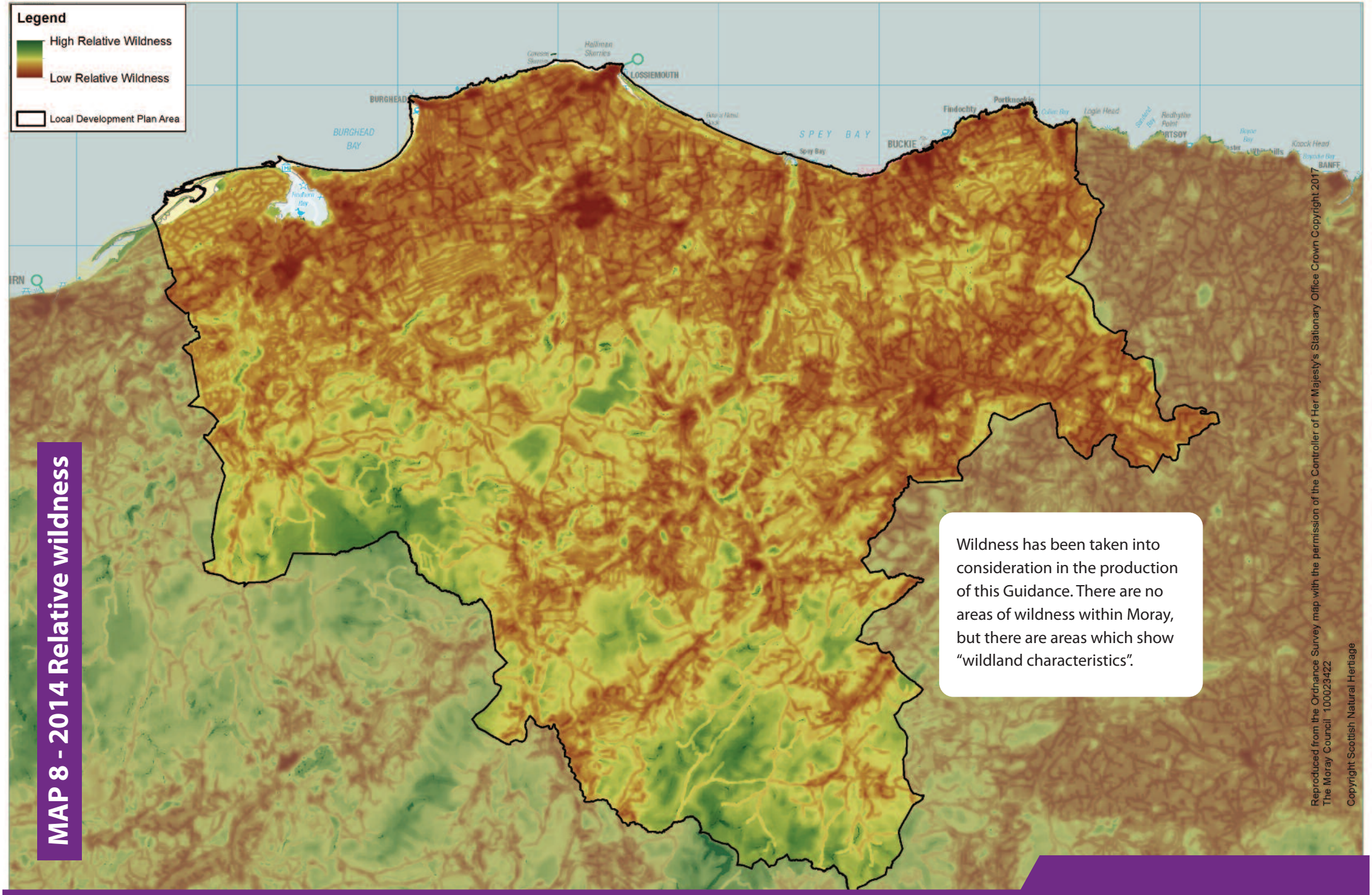
Turbines should be of a uniform design and developers should avoid a mix of turbine styles and design within an area. To minimise landscape impact, the Council's preferance is for the undergrounding of cables and grid connections.

Wildland

Wild Land areas mapped in SNH Wild Land Area Maps (2014) are within Group 2 of the SPP Spatial Framework for identifying areas of potential. Group 2 status provides the wildland areas with significant protection from wind farm developments.

SNH mapping shows that there are no areas identified as Wild Land Areas within Moray. However the Cairngorms Wild Land Area is located less than 15km from the planning authority area boundary and as a result may experience effects from onshore wind farm development near the boundary. SNH are finalising technical guidance on Assessing impacts on Wild Land Areas. The most up-to-date version of the guidance should be used in early discussion with Moray Council and SNH to determine if a wild land assessment is required to accompany a planning application for a development inside the planning authority area, which could have a significant effect on the qualities of the Cairngorms Wild Land Area.

MAP 8 - 2014 Relative wildness



Wildness has been taken into consideration in the production of this Guidance. There are no areas of wildness within Moray, but there are areas which show "wildland characteristics".

Further Information

SNH Wild Land Area Maps (2014) **www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/mapping/**

SNH guidance – Wildness in Scotland's Countryside, 2002
www.snh.gov.uk/docs/A150654.pdf

SNH guidance – Interim guidance note: Assessing the Impacts of Wildland, 2007
www.snh.gov.uk/docs/A1418983.pdf (currently being updated)

SNH guidance – Siting and Designing Windfarms in the Landscape: Version 2, 2014
www.snh.org.uk/pdfs/strategy/renewables/Guidance_Siting_Designing_wind_farms.pdf

SNH guidance – Siting and Designing of Small Scale Wind Turbines of between 15 and 50m in height", 2012
www.snh.gov.uk/docs/A675507.pdf

SNH guidance – Visual Representations of Windfarms: Version 2.1, 2014
www.snh.org.uk/pdfs/publications/heritagemanagement/Visual%20representation%20of%20wind%20farms%20-%20version%202.1%20-%20December%202014.pdf

SNH Landscape Impact Guidance
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/landscape-impacts-guidance/

Visual Representation of Windfarms Good Practice Guide, 2006 – prepared for SNH **www.snh.gov.uk/docs/A305436.pdf**

Moray Wind Energy Landscape Capacity Study 2016 – Carol Anderson
www.moray.gov.uk/downloads/file107092.pdf

SNH Wild Land and wildness mapping
www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/mapping/

SNH General advice and information
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/

Tourism and Recreation Facilities

The tourism industry makes a significant contribution to Moray's economy and it is therefore important to ensure that visitor experience of Moray is not diminished by windfarm developments. This also applies to Moray residents' enjoyment of the local environment.

Developers are therefore required to ensure that visual and landscape assessments take account of key viewpoints which may be used by tourists and local people, this includes landmark hills (see glossary) and viewpoints, core paths, cycleways, bridleways, visitor centres, the Spey Valley and distilleries.

Proposals should take account of key "outdoor" tourism areas such as Spey Bay, Findhorn Bay, Ben Rinnes, the Speyside Way, Bin of Cullen, Ben Aigan, Moray Coast Trail, Dava Way, Moray's "recreational" forests, the Glenlivet Estate, the Isla Way and key visitor centre attractions.

Access Rights
Access rights under part 1 of the Land Reform (Scotland) Act 2003 will only apply on Core Paths and Rights of Way within any designated construction site during development of any wind turbine(s). On completion of the development, general access rights will apply to all land and access tracks usually up to the base of the turbines.

Developers should provide a statement of how they intend to manage walkers, cyclists and horse riders, exercising rights in the vicinity of wind turbines. This can be incorporated into the Public Access Plan where one is being prepared.

Safeguarding Distances
A safeguarding distance of 1.5 times the height to blade tip should be provided from all public paths to ensure public safety in the event of a structural failure. For purposes of the detailed policy guidance maps, Rights of Way and Core Paths have been buffered, with the following minimum safeguarding distances.

Small/Medium	**50m**
Medium	**75m**
Large	**120m**

Table 10 Public Access Route Buffers

Details should be provided of any visitor interpretation or signposting proposed.

If there is a requirement for footpaths to be closed or diverted during the construction phase, then this information should be provided along with proposed mitigation.

For large and medium scale proposals and other cases at the discretion of the Council, the developer will be required to prepare a Public Access Plan. The plan should identify;

- All existing paths, tracks, rights of way and areas out with or excluded from statutory access rights.
- Any area proposed for exclusion for reasons of privacy, disturbance or curtilage.
- All paths and tracks proposed for construction.
- Any diversion of paths, temporary or permanent.

Further Information

Morayways outdoor access routes – **www.morayways.org.uk**

Contact

Ian Douglas, Moray Access Manager
Tel: 01343 557049
Email: **ian.douglas@moray.gov.uk**

Community Engagement

Details should be provided of actions taken to engage views on the proposal from the public and relevant interest groups. Where the proposal is deemed to be a major proposal, this is a requirement of the pre-application consultation process. However, for other scales of proposal, details required should be tailored to the scale of the proposal. Interest groups should include local walking, cycling, equestrian and hang gliding clubs.

Cumulative Impact

Cumulative impacts can be defined as the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together. In parts of Moray, the level of windfarm developments is now such that a large number of wind farms will have to be taken account of in determining cumulative effect.

SPP states that when assessing cumulative impact "planning authorities should be clear about likely cumulative impacts arising from all of the considerations below, recognising that in some areas the cumulative impact of existing and consented energy development may limit the capacity for further development;

- impacts on communities and individual dwellings, including visual impact, residential amenity, noise and shadow flicker;
- landscape and visual impacts, including effect on wild land;
- effect on the natural heritage, including birds;
- impacts on carbon rich soils, using the carbon calculator;
- public access, including impact on long distance walking and cycling routes and scenic routes identified in the NPF;
- impacts on the historic environment, including scheduled monuments, listed buildings and their setting;
- impact on tourism and recreation;
- impacts on aviation and defence interests and seismological recording;
- impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised;
- impacts on road traffic;
- impacts on adjacent trunk roads;
- effects on hydrology, the water environment and flood risk;
- the need for further conditions relating to the decommissioning of developments, including ancillary infrastructure, and site restoration;
- opportunities for energy storage; and
- the need for a robust planning obligation to ensure that operators achieve site restoration."

The Scottish Government's web based guidance for "onshore winds turbines" also states that, "Assessing the cumulative impact of a number of wind turbines or a number of wind farms involves considering the combined effects of siting proposals in proximity to each other. In areas approaching their carrying capacity the assessment of cumulative effects is likely to become more pertinent in considering new wind turbines, either as stand alone groups or extensions to existing wind farms. In other cases, where proposals are being considered in more remote places, the threshold of cumulative impacts are likely to be lower, although there may be other planning considerations.

In assessing cumulative landscape and visual impacts, the scale and pattern of the turbines plus the tracks, power lines and ancillary development will be relevant considerations. It will also be necessary to consider the significance of the landscape and the views, proximity and inter-visibility and the sensitivity of visual receptors.

The most up to date version of the SNH guidance 'Assessing the Cumulative Impact of Onshore Wind Energy Developments, March 2012' should be referred to when assessing the cumulative impact of wind turbines.

The issue of cumulative impact in MOD operations and facilities also needs to be considered. Wind turbines cause clutter on radar displays which consequently impact on MOD operations and air safety. Proliferations of turbines will exacerbate the problem. If not managed, the cumulative impact could have extremely significant detrimental effects on MOD operations and air safety."

Cumulative Landscape and Visual Considerations

Assessing cumulative impact and determining the degree of impact is complex and there is no agreed standard methodology. SNH guidance identifies that there are three types of cumulative visual impact;-

- In combination – where an observer can see two or more developments from one viewpoint in the same view.
- In succession – Where an observer can see two or more developments from one viewpoint but has to turn around to see them.
- In sequence – Where the observer has to move to different viewpoints to see different developments.

The cumulative impact of wind turbine developments is a product of;-

- The distance between individual windfarms and turbines
- The distance over which they are visible
- The overall character of the landscape and its sensitivity to windfarms
- The siting and design of windfarms themselves and the way in which the landscape is experienced.

When the Council and consultees determine that a cumulative impact assessment is required, a study area will be agreed, which for large and medium scale proposals will usually be a 35km radius from the outer boundary of the proposed site. The assessment of sequential effects may extend beyond this boundary.

Draft cumulative Zone of Theoretical Visibility maps should be produced and used as a basis for identifying key landscape and visual receptors and agreeing viewpoints with the Council and consultees. This should be discussed at an early stage with some viewpoints serving a dual purpose in both the landscape and visual impact and cumulative impact assessments. Cumulative viewpoints will usually include landmark hills, key attractions and transport corridors. Detailed ZTV maps should then be prepared, supported by wireline drawings and photomontages and journey scenarios.

Key issues to be considered in the cumulative impact assessment are;-

- The number and sensitivity of key visual receptors from which the turbine(s) are visible together or sequentially
- Duration, frequency and nature of combined and sequential views on key routes
- Relative impact of each wind farm with regard to visual amenity and landscape character
- The existing pattern of development

The focus should be on identifying cumulative impacts which are likely to be a key consideration in determining the application, rather than an assessment of every potential cumulative effect.

In some situations involving multiple wind turbines, the ZTV diagrams can become difficult to interpret and a series of separate ZTV's, wirelines and photomontages, a "wind rose" diagram can be helpful to show the arc of view and distance of windfarms visible through 360 degrees. This can be particularly useful to show views from landmark hills.

The cumulative impact assessment should provide an assessment of impacts arising or likely to arise from their proposals, in combination with:

- Existing development, either built or under construction;
- Approved development, awaiting implementation; and
- Proposals awaiting determination within the planning process with design information in the public domain. Proposals and design information may be deemed to be in the public domain once an application has been lodged, and the decision-making authority has formally registered the application.

Small scale proposals also raise issues of cumulative impact. Where the cumulative effects of these could be significant, they require assessment and this should be agreed at scoping/pre-application stage. Issues arising could include;

- Cumulative issues occurring with a mix of large scale and smaller scale turbines
- Multiple small scale turbines being proposed in a particular landscape character type, with complex cumulative impacts arising.

The most up to date version of the SNH guidance on Siting and Design of Small Scale Wind Turbines of between 15 and 50 meters in height should be referred to in relation to the preferred approach to cumulative assessment of single or small groups of small scale turbines.

Landscape Character Type 1-3 – Coastal Margin

- Multiple turbines sited within both Coastal Margin (1-3) and the Coastal Farmland (4) landscape character areas which would be inter-visible where the landscape is more open and could form dominant features particularly if concentrated in close proximity to each other.
- Variation in the type and size of single and small groups of small turbines proposed within the Coastal Margin (1-3) and also cumulative effects with masts and other tall structures sited close to the coast which could adversely affect the sense of naturalness and seclusion associated with much of this landscape.
- Sequential visual impacts experienced when travelling on coast roads.

Landscape Character Type 4 – Coastal Farmland

- An absence of rationale which could occur between operational and consented wind farms clearly associated with simple and more expansive upland areas and any potential large wind turbines sited within this more settled landscape.
- Multiple wind turbines (and particularly turbines >50m) which would be inter-visible across more open areas and could be seen from more elevated sections of the A96 and other roads and from the edges of settlements and small hills and ridges, forming dominant features if repeated across the character type. Variations in the type and size of single and small groups of small turbines and also cumulative effects with masts and other tall structures.
- Sequential cumulative visual impacts experienced when travelling through this landscape on the A96 and A98 including potential effects associated with operational and consented developments with neighbouring Aberdeenshire.

Landscape Character Type 4a – Coastal Farmland with Rolling Hills

- An absence of rationale which could occur between wind farms clearly associated with simple and more expansive upland areas and any similarly large wind turbines sited within this smaller landscape.
- Cumulative effects from the B9018 where any larger wind turbines sited in this landscape would be seen in relatively close succession and potentially together with operational single and small groups of larger turbines and the consented Aultmore wind farm.
- Variations in the type and size of any single or small group of turbines proposed within this landscape.
- Multiple turbines sited within this character type which could impact on views from the Bin of Cullen and from the Coastal Farmland (4) with larger turbines likely to quickly form dominant features.

Landscape Character Type 5 – Rolling Farmland and Forests

- The close inter-visibility between additional turbines located in the western parts of this character type and the operational Rothes I and II wind farm – even small turbines sited in the Rolling Farmland and Forest (5) would appear large from close-by roads and settlements and could increase the visual clutter of turbines and the transmission line which are prominent in views.
- An absence of rationale which could occur between operational and consented wind farms clearly associated with simple and more expansive upland areas and any potential similarly large wind turbines sited within this smaller scale landscape.
- Variations in the type and size of any single or small groups of turbines proposed within this landscape.
- Sequential visual impacts experienced when travelling through this landscape, especially if additional wind farm developments were accommodated within the adjacent plan Moorland and Forestry (10) and prominent on containing skyline.

Landscape Character Type 5a – Rolling Farmland and Forests with Valleys

- The close inter-visibility between additional turbines located in the Lossie Valley area and the operational Rothes I and II wind farms and consented Meikle Hill and Kellas wind farms. Even the small turbines sited in this valley would appear large from nearby roads and settlement and would increase the visual clutter of turbines and the transmission line which are prominent in views.
- An absence of rational which could occur between operational and consented wind farms clearly associated with simple and more expansive upland areas and any potential similarly large wind turbines sited within this smaller scale landscape.
- Inter-visibility between any wind turbines located on visually prominent ridge tops or upper slopes, where they would break the skyline and be seen together with the Rothes I and II wind farm and other operational and consented wind farm developments sited in the Upland Moorland and Forestry (10) and longer views from the Coastal Farmland (4) and Rolling Farmland and Forest (5).
- Variation in the type and size of any single or small group of turbines proposed within this landscape.
- Sequential visual impacts experienced when travelling through this landscape.

Landscape Character Type 5b – Rolling Farmland and Forests with Low Hills

- An absence of rational which could occur between operational and consented wind farms clearly associated with simple and more expansive upland areas and any potential similarly large wind turbines sited within this smaller scale landscape.
- Inter-visibility between any wind turbines located on visually prominent ridge tops or upper slopes, where they would break the skyline and be seen together with the Rothes I and II wind farm and other operational and consented wind farm developments located in the Upland Moorland and Forestry (10) and Open Rolling Uplands (11) longer views from settlement and roads to the north.
- Variations in the type and size of any single or small group of turbines proposed within this landscape.
- Sequential visual impacts experienced when travelling through the landscape.

Landscape Character Type 6 – Narrow Wooded Valley

- An absence of rational which could occur between operational and consented wind farms clearly associated with simple and more expansive upland areas and any potential similarly large wind turbines sited within this smaller scale landscape.
- Inter-visibility between any wind turbines located on visually prominent ridge tops or upper slopes of this landscape and operational and consented wind farms sited within the Upland Moorland and Forestry (10) and Open Rolling Uplands (11) longer views from settlement and minor roads in open areas of farmland and from the A940, an important scenic route into Moray.
- The inconsistent relationship that could arise with other key landscape elements – the Narrow Wooded Valleys (6) has a strong integrity which could easily become fragmented by multiple wind turbines.
- Variations in the type and size of any single or small group of turbines proposed within this landscape.
- Sequential visual impacts experienced when travelling through the landscape.

Landscape Character Type 7 – Broad Farmed Valley

- Further wind farm development extending along the skyline of the uplands containing the Spey Valley with cumulative impacts likely to be increased where turbines were large and/or sited on the outer edges of the uplands in closer proximity to this landscape and to roads and settlement.
- Potential sequential effects on views from the A95 and other roads, including the minor road between Dallas and Knockando
- An absence of rational which could occur between operational and consented wind farms clearly associated with simple and more expansive upland areas and any potential similarly large wind turbines sited within this smaller scale and more settled landscape.
- Variations in the type and size of any single or small groups of turbines proposed within this landscape.

Landscape Character Type 8 – Upland Farmland

- Multiple single turbines associated with the majority of land holdings across this well-settled landscape would result in significant visual clutter and confusion and would detract from the character of this landscape. Turbines >35m will create this effect more quickly than smaller turbines.
- Large turbines visible on every hill top/upland plateau within the adjacent Broad Forested Hills within Upland Farmland (8a) would be likely to have a dominant and overwhelming effect on this character type and have cumulative effects with turbines located in this character type.
- Potential sequential cumulative visual effects on views from the A95 through Moray and into Aberdeenshire where a number of operational wind farms and small groups of tall turbines are sited (the screening provided by ridges and hills on the Aberdeenshire/Moray border limits inter-visibility).
- An absence of rational which could occur between operational and consented wind farms clearly associated with simple, more expansive Broad Forested Hills within Upland Farmland (8a) and the same size of turbines sited in this character type – this occurs already in the Grange Crossroads area.
- Variations in the type and size of any single or small groups of turbines proposed within this landscape.

Landscape Character Type 8a – Broad Forested Hills within Upland Farmland

- Windfarm developments located in the majority of lower, less distinctive upland plateau and ridges within this character type which would impact on views from the adjacent Upland Farmland (8), potentially creating a dominant 'encircling' effect.
- Close inter-visibility of operational and consented larger turbines sited in the adjacent Upland Farmland (8) character type and any larger typologies sited in nearby parts of the Broad Forested Hills within Upland Farmland (8a) which could exacerbate visual clutter and domination of turbines in views from the B9018 and from settlements.
- Potential sequential cumulative visual effects on views from major roads including the A96 and the A95 through Moray and into Aberdeenshire where a number of operational wind farms and small groups of tall turbines are sited (the screening provided by ridges and hills on the Aberdeenshire/Moray border limits inter-visibility).
- Cumulative effects from popular walking routes and hill tops including from the Bin of Cullen and Knock Hill where multiple wind farms and large turbines sited in both Moray and Aberdeenshire would be seen in close proximity.

Landscape Character Type 9 – Rolling Forested Hills

- Close inter-visibility of operational single small turbines sited in this character type and the adjacent Upland Farmland (8) with large turbines/wind farm developments such as Hill of Towie and Edintore which could exacerbate visual clutter and domination of turbines in views from the A95, B9014, B9013 and settlement.
- Cumulative effects on views from popular walking routes and hill tops including from the Speyside Way, Little Conval and Ben Aigan.
- Extensions to operational wind farms and new developments which could dominate immediate skylines above the Narrow Farmed Valleys (13) or potentially lead to a 'corridor' effect either side of these small scale valleys.
- Differences in size, design and rotational speed of small turbines with large turbines with smaller single turbines and groups of turbines in the Mulben area and on farmland north-west of the Hill of Towie wind farm.

Landscape Character Type 10 – Upland Moorland and Forest/Upland Plateau with Forest

- Potential sequential and simultaneous views of multiple developments visible on the long, low skylines of this character type seen in views from the Coastal Farmland (4), Rolling Farmland and Forest (5) and Rolling Farmland and Forest with Valleys (5a).
- The close proximity of the Berry Burn wind farm located in the adjacent Open Uplands (11) to the narrower extent of the Upland Moorland and Forestry (10) in the west may result in potential close inter-visibility of development although extensive woodland cover and isolation from settlement and roads may also limit cumulative effects experienced on the ground.
- Potential effects on views from the A95 and from settlements within the Broad Farmed Valleys (the Spey Valley) where Paul's hill and Hill of Towie wind farms are already visible and where any additional development in this character type could increase impacts – operational wind farms occupy lower and more simple sections of skyline seen from the Spey Valley and are reasonably distant from key views and this reduces their prominence, although this could change if future development proposals were sited closer to the edge of the Upland Moorland and Forestry (10) and/or featured larger turbines.
- Sequential and simultaneous visibility of multiple wind farm developments within this character type and the adjacent Open Rolling Uplands (11) from the Dava Way – the Berry Burn wind farm is already visible and there will also be close views of the Hill of Glaschyle wind farm from this recreational route.
- Cumulative effects on views from the minor road between Knockando and Dallas – operational wind farms are already visible but relatively well set back. The consented Meikle Hill windfarm will lie very close to the eastern side of the road and any further development seen in close proximity to the west could create a dominant 'corridor' effect.
- Sequential and simultaneous views from the A940 which provides a scenic approach to Moray over Dava Moor – the consented Hill of Glaschyle wind farm will be prominent in views from rare open spaces along this route and additional development on the small wooded hills which lie on the western extent of this character type could result in significant cumulative effects.
- Increases in the extent and prominence of wind farm development seen on skylines above the upper Lossie valley – the operational Rothes I and II wind farm is already visible in the east and the consented Meikle Hill and Kellas wind farms will increase visibility of turbines towards the west.

Landscape Character Type 11 – Open Rolling Uplands

- Potential effects on views from the A95 and from settlement within the Broad Farmed Valley (the Spey Valley) where Paul's Hill and Hill of Towie wind farms are already visible and where any additional development sited in this character type and also in the Upland Moorland and Forestry (10) could increase the extent and prominence of turbines seen on containing skylines.
- Sequential and simultaneous views of multiple wind farm developments sited within this character type and the Upland Moorland and Forestry (10) from the Dava Way – the Berry Burn wind farm is already visible and there will also be close views of the Hill of Glaschyle wind farm from this recreational route.
- Cumulative effects on views from the minor road between Knockando and Dallas. Operational wind farms are already visible but are mostly well set back from the road. The consented Meikle Hill wind farm located in the Upland Moorland and Forestry (10) will lie very close to the eastern side of this road and any further development seen in close proximity to the west could create a dominant 'corridor' effect.
- Sequential and simultaneous views from the A940 which provides a scenic approach to Moray over the Dava Moor – the consented Hill of Glaschyle wind farm will be prominent in views from rare open spaces along this route and additional larger turbines sited to the west of this road would be particularly prominent.

Landscape Character Type 12a – Open Upland with Steep Slopes

- Views from the top of Ben Rinnes to surrounding high ridges and landmark hills which already feature a number of wind farms to the north. The consented Dorenell wind farm will be seen in much closer proximity than these operational developments.
- The erosion and diminution of the qualities of wildness associated with Moray's landscapes and the sense of seclusion experienced from hill tops and more remote glens – there are few upland areas left in Moray where there are no wind farm developments either built or consented.
- The role played by the undeveloped eastern flank of Glen Rinnes, which currently provides a visual buffer between the consented Dorenell wind farm and the smaller scale Narrow Farmed Valley (13) of Glen Rinnes.
- Potential cumulative effects on views from the neighbouring Broad Farmed Valley (7) where the Hill of Towie and Paul's Hill wind farms are already visible.
- The setting of Dufftown where the operational wind farm of the Hill of Towie is already visible and a small number of turbines of the consented Dorenell wind farm will also be partially visible.

Landscape Character Type 12b – Open Uplands with Settled Glens

- Potential sequential and simultaneous views of multiple developments along the skyline around the 360 degree bowl of the Cabrach seen from the A941.
- Cumulative effects on views from the adjacent smaller scale and settled Narrow Farmed Valleys (13), the Deveron valley within neighbouring Aberdeenshire and on the setting of landmark historic features such as Auchindoun Castle.
- Visual confusion and an absence of rationale which could occur between large turbines sited in simple and more expansive upland areas and the same size of turbine also located within the more settled valleys and basins of this landscape.
- Variations in the type and size of single and small groups of small turbines proposed within the character type.

Landscape Character Type 13 – Narrow Farmed Valleys

- Multiple turbines of even the small typology (turbines 20-35m) could result in significant visual clutter and detraction from the landform and the often rich land cover and settlement pattern characteristic of these valleys, particularly where they are narrow and strongly contained by steep slopes.
- Wind farms located in adjacent upland landscapes (landscape character types 8a, 12a and 12b) where large turbines could have a dominant effect if sited close to the edge and seen on the immediate skylines which contain these valleys.
- An absence of rationale that would occur between large turbines sited in the less settled, simpler and more expansive adjacent upland landscapes (landscape character types 8a, 12a and 12b) and also within these more settled smaller scale valleys which could lead to visual confusion and erode perceived differences in landscape character.

Further Information

Scottish Government guidance – Scottish Planning Policy, 2014
www.gov.scot/Resource/0045/00453827.pdf

Scottish Government online guidance – Onshore Wind turbines, May 2014
www.gov.scot/Resource/0045/00451413.pdf

SNH Landscape Impact Guidance
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/landscape-impacts-guidance/

Moray Wind Energy Landscape Capacity Study 2016 – Carol Anderson
www.moray.gov.uk/downloads/file107092.pdf

Decommissioning Options

The estimated life span of a windfarm is currently somewhere in the region of 25 years after which the operators will review the viability of the plant. If the option is taken to decommission then a mechanism should be in place to ensure that the turbines and associated structures are removed. A reinstatement plan should be submitted giving proposals of how developers would intend to restore the ground to its former condition. This should include details of appropriate waste management, through minimisation, recycling and disposal. A bond may be required to be taken out to achieve the reinstatement.

The environmental effects of the decommissioning works should be set out and assessed.

Further Information

SNH Decommissioning and Restoration Plans
www.snh.gov.uk/docs/A1434319.pdf

SNH General advice and information
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/

Electricity Connections to the Transmission Network

Electricity connections linking wind farms to the transmission network should be considered when the project is at an early stage so that environmental effects are considered fully.

It is the Council's preference that connections are underground. Where undergrounding is deemed unviable, the alternative options must be supported fully by evidence, that clearly show that the alternative option chosen is the best method of connection.

Proposals for connections from wind farms to the transmission network will be assessed against MLDP Policies, the Landscape Capacity Study, relevant areas of this guidance and any other material considerations. Applicants should engage in discussions with the Council, SNH, Historic Environment Scotland and SEPA at the earliest opportunity.

Monitoring

The location and type of wind energy developments will be monitored on an ongoing basis and incorporated into the annual Local Development Plan Monitoring Report.

It is proposed that a comprehensive review of cumulative landscape and visual effects is undertaken every five years to ascertain if/when capacity is close to being reached within and between landscape character types.

A full review of this guidance will be undertaken during the next development plan period or earlier if considered appropriate.

8 Glossary of Terms

Area of Great Landscape Value – a regional designation of areas considered to be of the highest landscape value.

Areas of Greatest Potential – Areas with the greatest scope for further investigating the feasibility of developing a wind farm. (Areas of Greatest Potential status does not imply a presumption in favour of granting planning consent).

Cumulative Impact – The combined effects which can occur as a result of more than one project being constructed, giving rise to accumulating landscape and visual changes where developments are seen at the same time in the same field of view, in succession (at the same time, but not in the same field of view) or in sequence (while travelling through an area). Other cumulative impacts must also be considered such as cumulative impacts on habitats, species, access and recreation.

Landmark Hill – Well defined, steep sided hills which form prominent features across Moray (Knock Hill, Bin of Cullen, Meikle Balloch, Ben Rinnes, The Buck, Ben Aigan, Romach Hill, Mill Buie, Carn Kitty, Roy's Hill, Carn na Cailliche, Brown Muir, The Knock of Braemoray and Carn Biorach). These hills form highly visible and easily recognisable landmarks with many forming the immediate backdrop to settlements, small scale valleys and the coast. These hills form visual buffers to less prominent upland areas and are important in visually containing development.

Landscape Character – The distinct and recognisable pattern of elements that occurs consistently in a particular type and how this is perceived by people.

Landscape Capacity – the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character. Capacity will vary according to the type and nature of change being proposed. Capacity can also include visibility assessment and consideration of any values placed on the landscape (usually in the form of designations).

Detailed Policy Guidance Maps – a map based illustration identifying the areas of greatest scope for wind turbine development, based on the typology of the proposed development.

Sites of Special Scientific Interest – Sites of Special Scientific Interest (SSSI) are those areas of land and water (to the seaward limits of local authority areas) that Scottish Natural Heritage (SNH) considers to best represent our natural heritage – its diversity of plants, animals and habitats, rocks and landforms, or a combination of such natural features. SNH designates SSSIs under the Nature Conservation (Scotland) Act 2004. SSSIs are protected by law. It is an offence for any person to intentionally or recklessly damage the protected natural features of an SSSI.

Spatial Framework – a map based illustration of opportunities for investigating the potential for wind turbine developments.

Special Areas of Conservation – A Special Area of Conservation (or SAC) is a site designated under the Habitats Directive.
These sites, together with Special Protection Areas (or SPAs) are called Natura sites and they area internationally important for threatened habitats and species. Natura sites form a unique network of protected areas which stretches across Europe from the rocky coasts of Ireland in the west, to the marshes of eastern Poland, taking in the northern forests of Sweden and the volcanic lava fields of Tenerife.

SACs are selected for a number of habitats and species, both terrestrial and marine, which are listed in the Habitats Directive.

Special Protection Areas – A Special Protection Area (or SPA) is a site designated under the Birds Directive. These sites, together with Special Areas of Conservation (or SACs) are called Natura sites and they are internationally important for threatened habitats and species.

SPAs are selected for a number of rare, threatened or vulnerable bird species listed in Annex 1 of the Birds Directive, and also for regularly occurring migratory species.

Visual Impact – changes in the appearance or perceptions of a particular area or view as a result of development or other change. Visual impacts can be beneficial and adverse.

9 Contacts

Organisation	Contact	Email	Telephone
The Moray Council Development Plans	Gary Templeton, Principal Planning Office	gary.templeton@moray.gov.uk	01343 563470
The Moray Council Development Management	Angus Burnie (West Moray), Principal Planning Officer Neal MacPherson (East Moray), Principal Planning Officer	angus.burnie@moray.gov.uk neal.macpherson@moray.gov.uk	01343 563242 01343 563266
The Moray Council Environmental Health	Douglas Caldwell, Environmental health Officer	douglas.caldwell@moray.gov.uk	01343 563355
The Moray Council Transportation	Transport Development	Transport.develop@moray.gov.uk	0300 1234565
The Moray Council Public Access	Ian Douglas, Moray Access Manager	ian.douglas@moray.gov.uk	01343 557049
Scottish Natural Heritage	Jennifer Heatley, Operation Officer Tayside and Grampian Nina Turner, Renewable Energy Tayside and Grampian Sarah Hutcheon, Landscape Policy and Advice Officer	Tayside_grampian@snh.gov.uk	01343 541216 01463 725220 01224 266523
SEPA	Planning Service	planning.aberdeen@sepa.org.uk	01224 266600
Historic Environment Scotland	Heritage Management	HMConsultations@hes.scot	0131 6688716
Regional Archaeologist	Bruce Mann	bruce.mann@aberdeenshire.gov.uk	01224 664731
RSPB		esro@rspb.org.uk	01224 624824
Transport Scotland		development_management@transportscotland.gsi.gov.uk	0141 2727100
Ofcom		spectrum.licencing@ofcom.org.uk	
MOD Safeguarding		DIO-Safeguarding-Wind@mod.uk	0121 3113847

Additional Guidance/Information

Moray Wind Energy Landscape Capacity Study 2016 – Carol Anderson
www.moray.gov.uk/downloads/file107092.pdf

2020 Routemap for Renewable Energy in Scotland – Update September 2015
www.gov.scot/Resource/0048/00485407.pdf

Pre application consultation guidance and forms
www.moray.gov.uk/moray_standard/page_79962.html

Scottish Planning Policy, June 2014
www.gov.scot/Resource/0045/00453827.pdf

Scottish Government guidance – Planning Circular 3/2011: Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011
www.gov.scot/Resource/Doc/350238/0117228.pdf

Scottish Government guidance – Planning Advice Note 1/2013: Environmental Impact Assessment **www.gov.scot/Publications/2013/08/6471/5**

Scottish Government guidance – Planning Advice Note 1/2011: Planning and Noise **www.gov.scot/Resource/Doc/343210/0114180.pdf**

Scottish Government Planning Advice Note 2/2011 – Planning and Archaeology
www.gov.scot/Resource/Doc/355385/0120020.pdf

Planning Advice Note 50- Controlling the Environmental Effects of Surface Mineral Workings **www.gov.scot/Resource/Doc/109611/0026467.pdf**

Scottish Government online guidance – Onshore Wind turbines, May 2014
www.gov.scot/Resource/0045/00451413.pdf

Scottish Government Wind Farm and Carbon guidance
www.gov.scot/WindFarmsAndCarbon

SNH general scoping and pre-application advice found via
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/

SNH guidance on landscape impacts of wind farms found via
www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/landscape-impacts-guidance

SNH guidance on wild land and wildness mapping found via
www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/

SNH guidance on wind farm impacts on birds found via **www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/windfarm-impacts-on-birds-guidance/**

SNH guidance on carbon and peatland found via **www.snh.gov.uk/planning-and-development/advice-for-planners-and-developers/soils-and-development/cpp/**

SNH, SEPA and Windfarm Industry – Good Practice during Windfarm Construction: Version 3, September 2015 **www.snh.gov.uk/docs/A1168678.pdf**

SNH guidance – Assessing the Cumulative Impact of Onshore Wind Energy Developments, March 2012 **www.snh.gov.uk/docs/A675503.pdf**

SEPA guidance Note 4- Planning Guidance on Onshore Windfarm Developments **www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf**

SEPA Regulatory Position Statement – Development on Peat **www.sepa.org.uk/media/143822/peat_position_statement.pdf**

SEPA Pollution Prevention and Control guidance **www.sepa.org.uk/regulations/pollution-prevention-and-control/**

Historic Environment Scotland guidance – Managing Change in the Historic Environment: Setting, 2010 **www.historic-scotland.gov.uk/setting-2.pdf**

Civil Aviation Authority (CAA) – CAA Policy and Guidelines on Wind Turbines: CAP 764 – 6th Edition, February 2016 **http://publicapps.caa.co.uk/docs/33/CAP764%20Issue6%20FINAL%20Feb.pdf**

Transport Scotland advice **www.transportscotland.gov.uk/road**

Institute of Acoustics – A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, May 2013 **www.ioa.org.uk/sites/default/files/IOA%20Good%20Practice%20Guide%20on%20Wind%20Turbine%20Noise%20-%20May%202013.pdf**

10 Checklist

Topic	Issue	Comment
Spatial Framework	• Is the proposal within an area of potential?	
Detailed Policy Guidance Maps	• Is the proposal within an area of greatest potential for the desired turbine typology?	
Development Management	• Is the proposal a "major" development requiring pre application consultation procedures? • Have 6 figure grid references, details of the turbine model, height, colour, blade diameter been provided? • Is an Environmental Impact Assessment required? • Have details of ancillary development including access tracks, grid connection, support buildings, borrow pits, construction compounds and anemometers been provided? • Has a planning policy statement been provided for medium, large and very large proposals? • Have details of the site selection process been provided?	
Biodiversity	• Is the proposal in, adjacent to, or likely to affect Ramsar sites, Special Areas of Conservation, Special Protection Areas or Sites of Special Scientific Interest and the species and habitats that they are designated for? • Is a Habitats Regulation Appraisal required? • Would other protected habitats and species be affected? • Would other protected and/or BAP habitats and species • Are any non-statutory designations likely to be affected? • Does the proposals involve tree felling?	
Separation Distances	• What is the distance between the turbine locations and the nearest regularly occupied building? • Is shadow flicker likely to be an issue?	
Transportation	• What is the distance from turbine location to road and rail lines? • Are the access roads suitable for the transportation of components?	

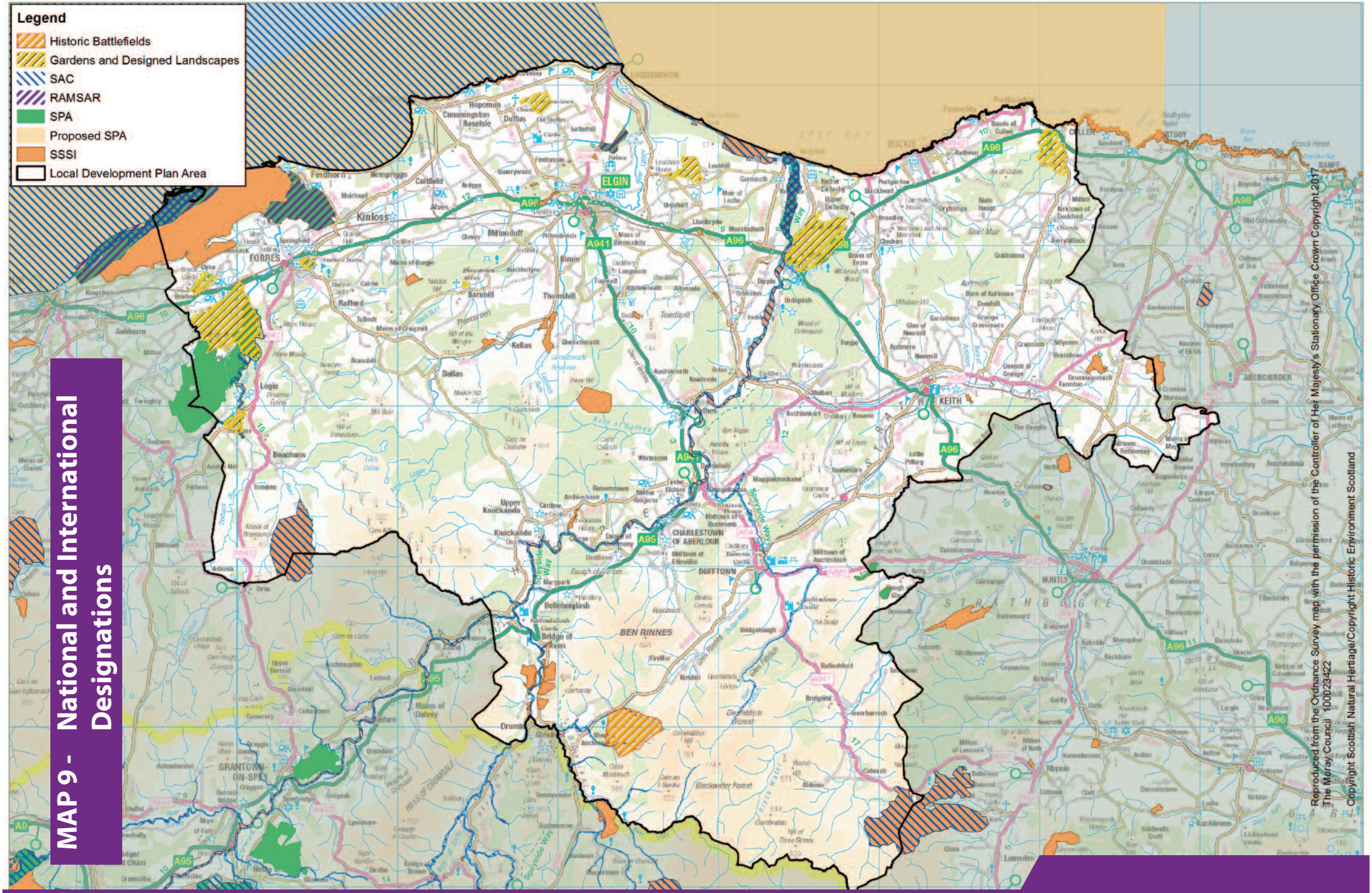
Topic	Issue	Comment
Transportation	● Do bridges need strengthened? ● Is visual distraction to road users an issue? Is there an accident history within the study area? ● Have details of the access routes, the number and maximum size of vehicles been provided for construction, operation and maintenance phases? ● Is a Transport Assessment required? Has the TA Scoping been submitted? ● Is there need for a cumulative Transport Assessment?	
Carbon Rich Soils, Deep Peat and Priority Peatland	● Does the proposal affect areas mapped by SNH in their carbon rich soils, deep peat and priority peatland habitats maps? ● Has a phase 1 and /or NVC habitat survey been carried out and used to inform the development layout so as to avoid (where feasible) carbon rich soils, deep peat and priority peatland habitats (CPP). ● If the proposal affects peat, has peat depth probing been carried out and used to inform the development layout so as to avoid CPP where feasible and have the peat depths been provided in the submission. ● Has a plan been provided demonstrating how the amount of peat excavated will be minimised, stored, re-used and disposed of? ● Has a construction method statement been provided for work in peatlands? ● Has a construction and environmental management plan been submitted?	
Pollution Prevention/Water Environment	● Have details of all the watercourses on and adjacent to the site been identified? Does the proposal impact upon the water environment? ● Are the turbines outwith the buffer distance from the nearest water feature? ● Does the proposal involve water abstractions, concrete batching or welfare facilities? ● Have all impacts on the water environment been identified including engineering activities such as culverts, bridges, dams, diversions, the disruption of groundwater flow and impacts on existing groundwater abstractions, including private water supplies? Has a flood risk assessment been provided? ● Have permitting requirements under PPC and CAR been established?	

Topic	Issue	Comment
	• Have borrow pits and restoration measures been identified? • Have details of all waste streams been identified?	
Cultural Heritage	• Have details of cultural heritage designations been provided within the study areas and any likely impacts identified with mitigation measures?	
Noise	• Has a full sound power test been provided? Has an assessment of the noise level from the turbine(s) at the nearest noise sensitive property been provided? • Have noise mitigation measures been identified if required?	
Electro Magnetic Interference	• Will the proposal result in electromagnetic interference?	
Aviation	• Will the proposal interfere with civilian or military aviation flight paths, training areas, other operational areas or radar equipment? This includes local gliding clubs. • Is there a requirement for aircraft warning lights to be installed on turbines?	
Landscape and Visual Impact	• Which landscape character type is the proposal located within? Does the proposal conform with the assessment in the Landscape Capacity Study? Have the specific opportunities and constraints identified for the Landscape Character Type been addressed? • Is the proposal in, adjacent to, or likely to affect designated Areas of Great Landscape Value, Gardens and Designated Landscapes, Coastal Protection Zone or Countryside Around towns? • Is a full landscape and visual assessment required? • Has a study area and ZTV been provided? • Have viewpoints been agreed with the Council and Scottish Natural Heritage for large and medium wind farm developments? • Have photomontages and wirelines been provided in accordance with national guidance, the Visual Representation of wind farms good practice guideance?	

Topic	Issue	Comment
Landscape and Visual Impact	● Will the proposal have an impact upon the Cairngorm National Park or Highland Council Landscape designations, National Scenic Areas or impact on WLA's? ● Has a cumulative landscape and visual impact assessment and ZTV been carried out and submitted?	
Tourism and Recreation	● Will tourism/ leisure attractions and facilities be affected by the proposal? ● Are turbines proposed a safe distance from access routes? ● Does the landscape and visual impact assessment include key tourism and recreational interests?	
Community Consultation	● Have details of community consultation been provided?	
Cumulative Impact	● Will there be cumulative landscape and visual impacts, and if so, has any assessment and cumulative ZTV(s) been provided? ● Will there be cumulative impacts on habitats (including BAP and CPP), wildlife (especially protected and BAP species), protected areas, the historic environment, hydrology, aviation and defence interests, or communities? ● Have all relevant wind turbines proposals been considered in the cumulative assessment?	
Extension/ Clustering	● Are the turbines in an area with scope for further turbine development? ● Is the landscape sensitive to the development typology? ● Will cumulative impact be an issue?	
Repowering	● Is there scope for repowering the existing wind turbines? ● Are there likely to be greater landscape and visual impacts? Can these be mitigated? ● Does the existing site need redesigned to accommodate new turbines? ● Have potential impacts on wildlife, habitats, people, cutural heritage, aviation and defence interests, etc as a result of repowering and changes in layout, design and supporting infrastructure been assessed, including changes in cumulative impacts?	
Decommissioning	● Has a draft/outline decommissioning and reinstatement plan been provided with the submission?	

Appendices

MAP 9 - National and International Designations



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MAP 10 - Other Potential Constraints (Large Typologies)

MAP 11 - Other Potential Constraints (Medium Typologies)

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MAP 12 - Other Potential Constraints (Small-Medium Typologies)

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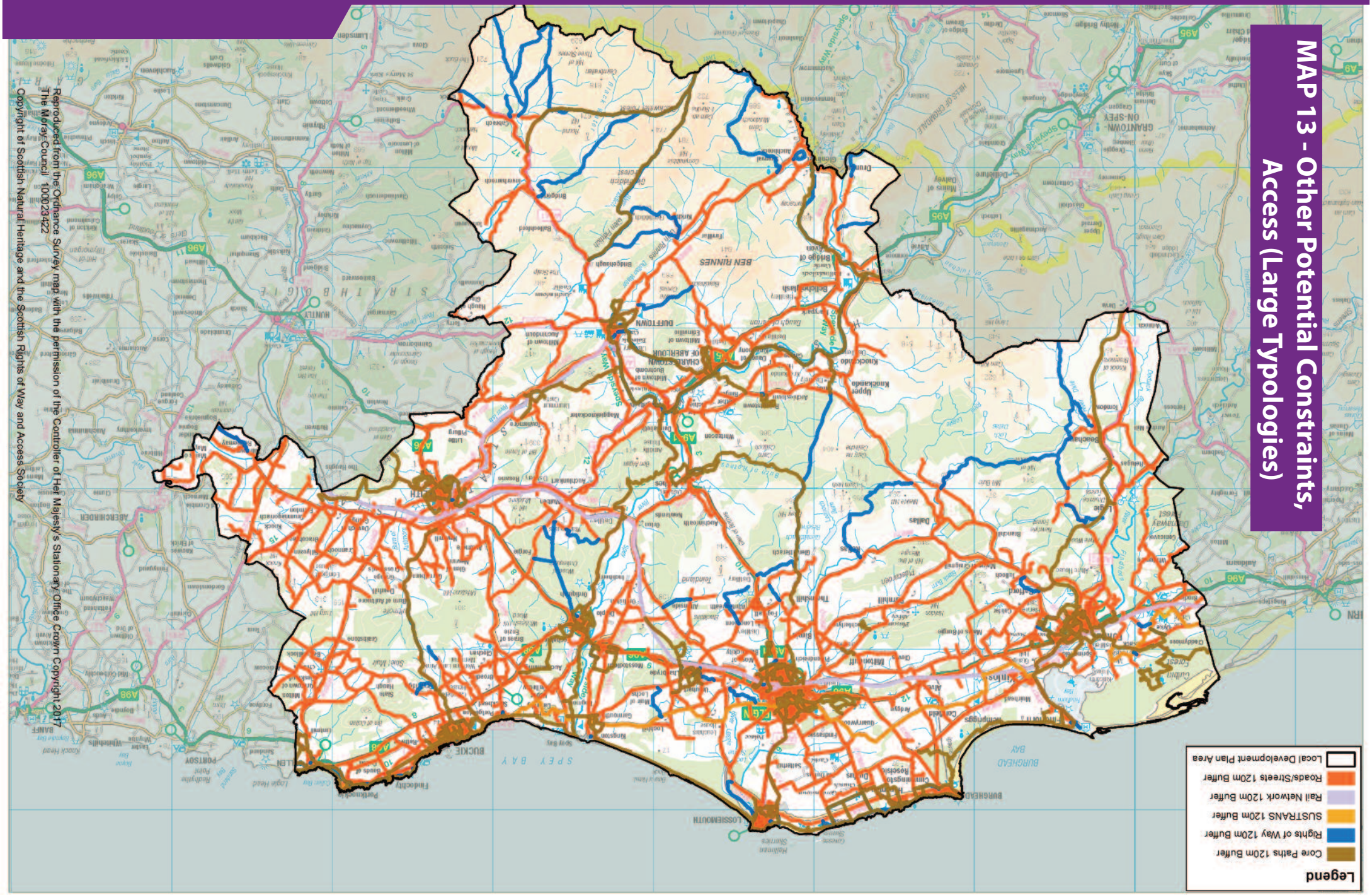
MAP 13 - Other Potential Constraints, Access (Large Typologies)



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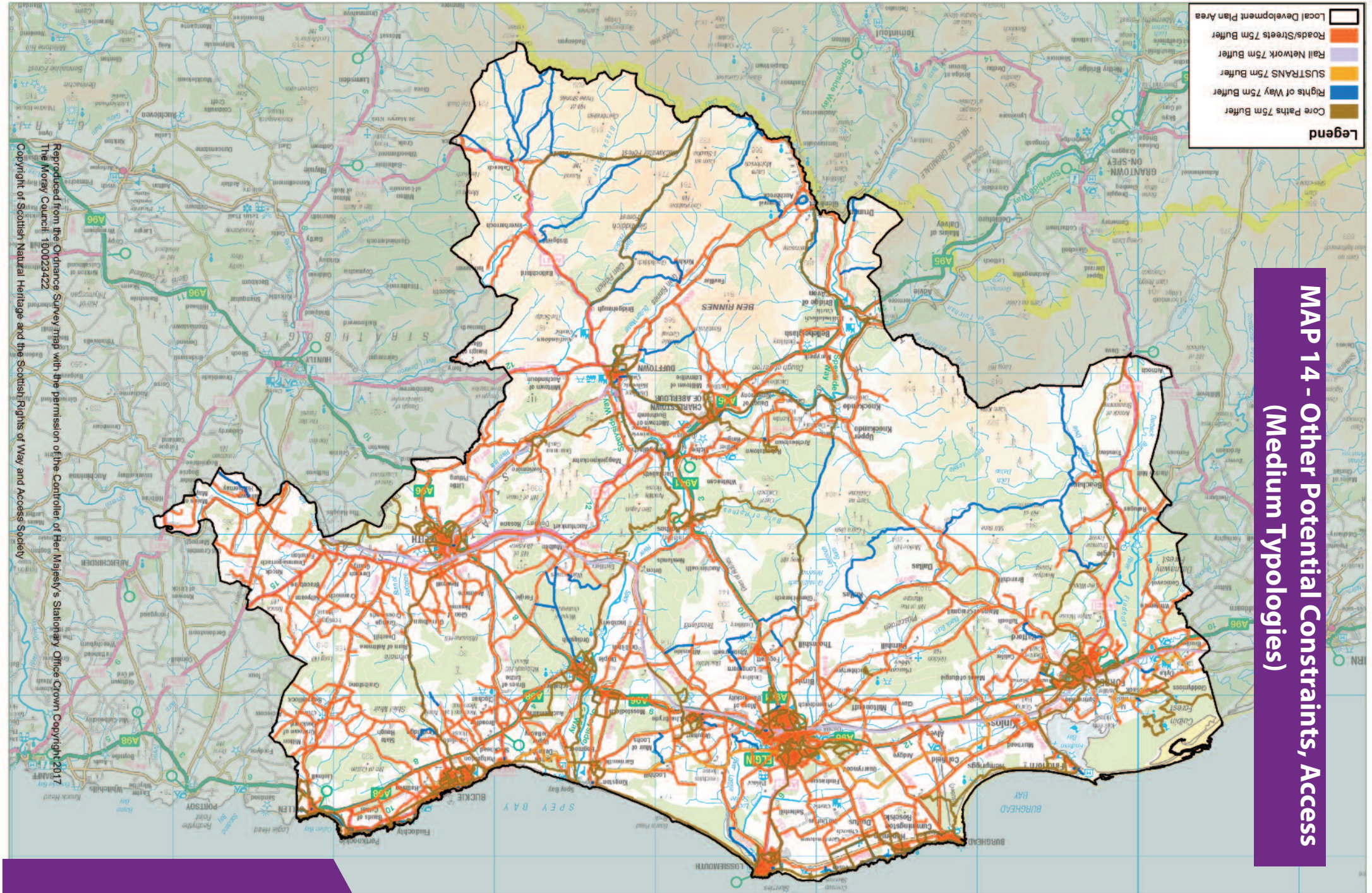

MAP 14 - Other Potential Constraints, Access (Medium Typologies)

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MAP 15 - Other Potential Constraints, Access (Small-Medium Typologies)

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MAP 16 - Landscape Capacity for Large Typologies (80-130m to blade tip)

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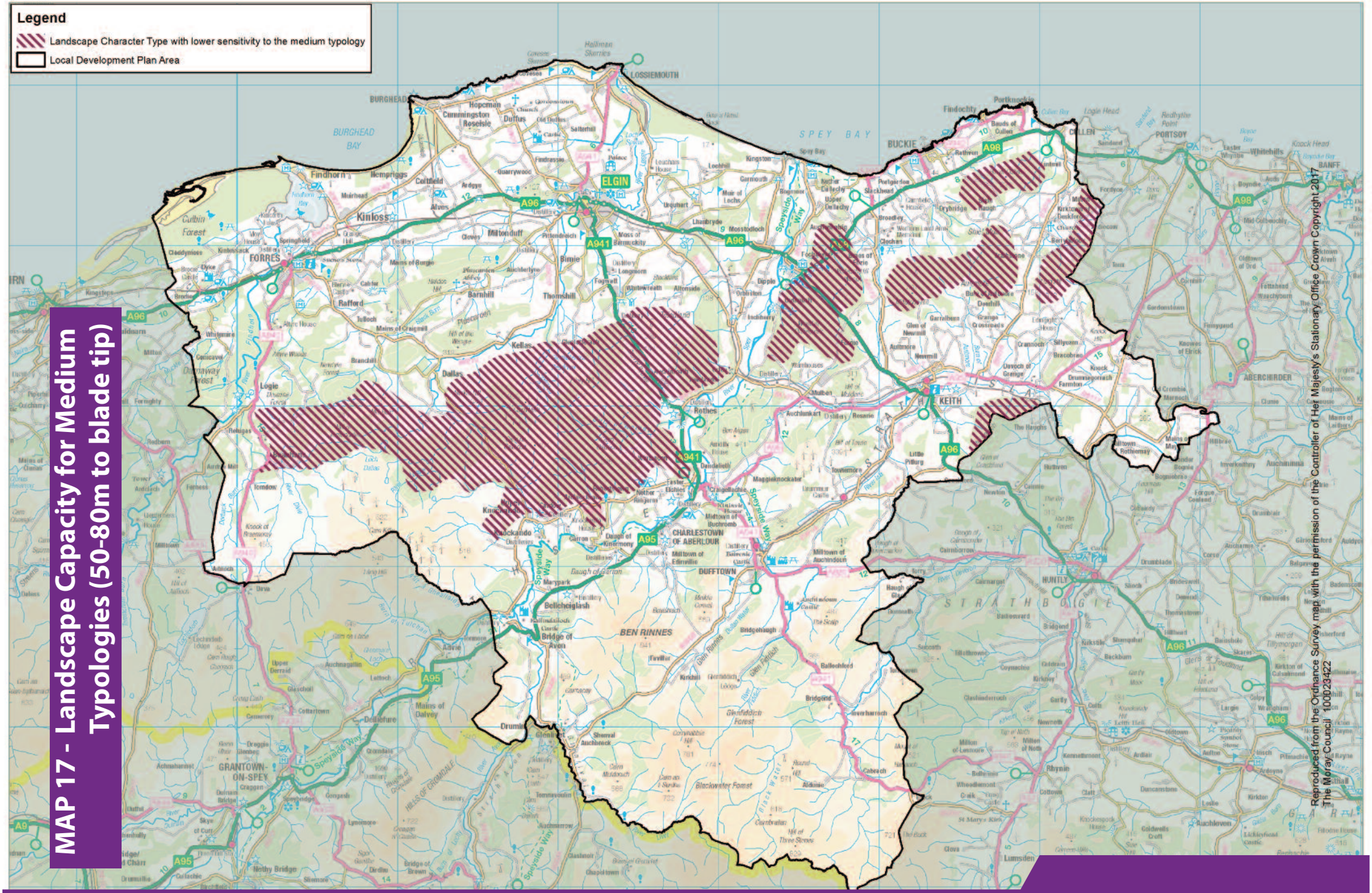
MAP 17 - Landscape Capacity for Medium Typologies (50-80m to blade tip)



MAP 18 - Landscape Capacity for Small-Medium Typologies (35-50m to blade tip)

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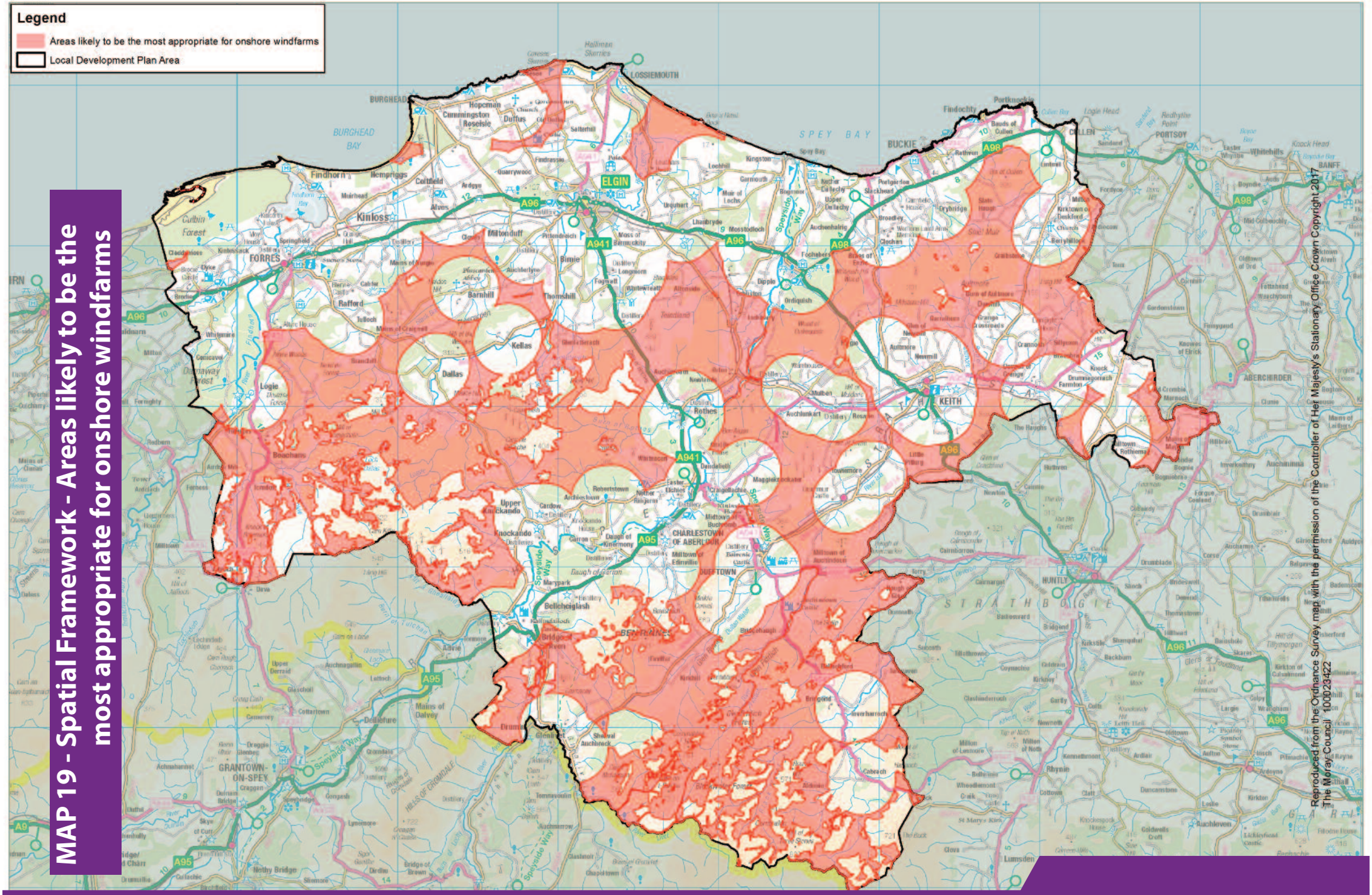
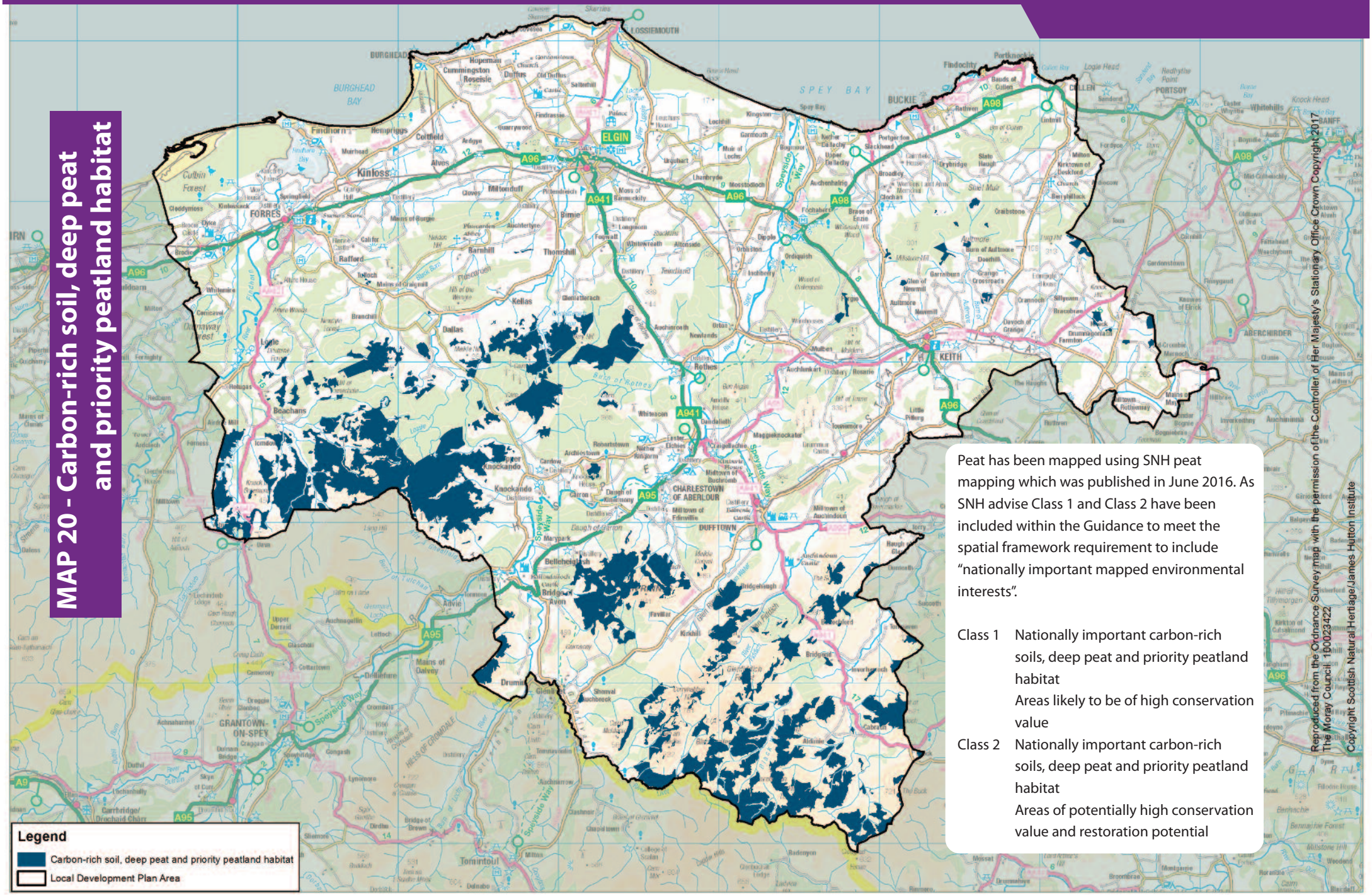
MAP 19 - Spatial Framework - Areas likely to be the most appropriate for onshore windfarms



MAP 20 - Carbon-rich soil, deep peat and priority peatland habitat



Peat has been mapped using SNH peat mapping which was published in June 2016. As SNH advise Class 1 and Class 2 have been included within the Guidance to meet the spatial framework requirement to include "nationally important mapped environmental interests".

Class 1 Nationally important carbon-rich soils, deep peat and priority peatland habitat
Areas likely to be of high conservation value

Class 2 Nationally important carbon-rich soils, deep peat and priority peatland habitat
Areas of potentially high conservation value and restoration potential

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